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LAW OF THE SEA

Note verbale dated 5 March 1996 from the United States Mission to the United Nations addressed to the Secretary-General

The United States Mission to the United Nations has the honour to bring to the attention of the Secretary-General of the United Nations the Intergovernmental Conference to Adopt a Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, held in Washington, D.C., from 23 October to 3 November 1995, the Washington Declaration on the Protection of the Marine Environment from Land-based Activities as well as the Programme of Action of the Conference. The United States was pleased to host this important intergovernmental conference which was attended by representatives from 109 countries. The United States considers the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities a major contribution to international efforts to implement the recommendations of the United Nations Conference on Environment and Development (UNCED), in particular on oceans-related matters. In the light of the broad consensus reached at the meeting, the United States Mission to the United Nations respectfully requests the Secretary-General to circulated the text of the present letter together with the report of the Conference (annex I) and the Global Programme of Action (annex II) as an official document of the General Assembly, under item 24 of the preliminary list.

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ANNEX I*

REPORT OF THE INTERGOVERNMENTAL CONFERENCE TO ADOPT A GLOBAL PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

INTRODUCTION

1. The Intergovernmental Conference to Adopt a Global Programme of Action for the Protection of the Marine Environment from Land-based Activities was convened by the Executive Director of the United Nations Environment Programme (UNEP) pursuant to Governing Council decision 17/20 of 21 May 1993, in which the Council authorized the Executive Director to organize a structured and sequenced preparatory process leading to a two-week intergovernmental meeting in late 1995 for the purpose of adopting a programme of action for the protection of the marine environment from land-based activities. The Conference, which was the final meeting in the process, was held in Washington, D.C., from 23 October to 3 November 1995.

I. OPENING OF THE MEETING

2. The Conference was opened by Ms. Elizabeth Dowdeswell, Executive Director of the United Nations Environment Programme (UNEP) at 10.35 a.m. on Monday, 23 October 1995.

3. The Conference was attended by representatives of the following 109 countries: Antigua and Barbuda, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Belize, Benin, Bhutan, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Cote d'Ivoire, Croatia, Cuba, Denmark, Dominica, Ecuador, Egypt, Estonia, Ethiopia, Finland, France, Gambia, Georgia, Germany, Ghana, Greece, Honduras, Iceland, India, Indonesia, Israel, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kiribati, Kuwait, Malawi, Malaysia, Maldives, Malta, Marshall Islands, Mauritius, Mexico, Micronesia (Federated States of), Monaco, Mozambique, Nauru, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Republic of Korea, Romania, Russian Federation, Rwanda, Saint Lucia, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Togo, Tunisia, Turkey, Turkmenistan, Uganda, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Vanuatu, Venezuela, Yemen, Zaire, Zambia and Zimbabwe.

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* Previously issued under the symbol UNEP(OCA)/LBA/IG.2/6.

4. The Conference was also attended by representatives of the following two United Nations bodies and Secretariat units: United Nations Environment Programme (UNEP) and United Nations Development Programme (UNDP).

5. In addition, representatives of the following nine specialized agencies and other organizations of the United Nations system also attended: Food and Agriculture Organization (FAO), Global Environment Facility (GEF), International Atomic Energy Agency (IAEA), International Maritime Organization (IMO), United Nations Educational, Scientific and Cultural Organization (UNESCO/IOC), United Nations Industrial Development Organization (UNIDO), World Health Organization (WHO), World Bank and World Meteorological Organization (WMO).

6. Also represented were the following seven intergovernmental organizations: Asia-Pacific Network for Global Change Research, Baltic Marine Environment Protection Commission (Helsinki Commission), Comision Permanente del Pacifico Sur (CPPS), European Commission (EC), International Council for the Exploration of the Sea (ICES), Regional Organization for the Protection of the Marine Environment (ROPME) and South Pacific Regional Environment Programme (SPREP).

7. Observers from the following 29 non-governmental organizations were also present: Advisory Committee on Protection of the Sea (ACOPS), American Crop Protection Association (ACPA), Center for International Environmental Law (CIEL), Chemical Manufacturers Association (CMA), Chlorine Chemistry Council (CCC), Chlorine Institute (CI), Earth Action (EA), European Chemical Industry Council (CEFIC), Department of Planet Earth (DPE), Environmental Defense Fund (EDF), Environmental and Energy Study Institute (EESI), European Crop Protection Association, Foundation Hernandiana (FH), Foundation for International Environmental Law and Development (FIELD), Friends of the Earth, Greenpeace International, International Association of Ports and Harbors (IAPH), International Coastal and Ocean Organization (ICOA), International Council of Chemical Associations (ICCA), International Council of Environmental Law (ICEL), International Fertilizer Industry Association (IFA), The Cousteau Society (TCS), National Academy of Science (NAS), Rio Systems (RS), Société pour Vaincre la Pollution, Woods Hole Oceanographic Institution (WHOI), World Conservation Union (IUCN), World Resources Institute (WRI) and World Wide Fund for Nature (WWF).

8. The full list of participants is attached as annex III to the present report.

9. Opening statements were made by the Executive Director of UNEP and by Ms. Eileen Claussen on behalf of the Government of the United States of America.

10. In her statement, the Executive Director welcomed participants, thanked the Government of the United States of America for its hospitality and said that the oceans, which covered 71 per cent of the earth's surface, provided a habitat for plants and animals, constituted a major source of human food and, through their interactions with the atmosphere, lithosphere and biosphere, were indispensable for maintaining the conditions making life possible. Human activities had, however, endangered the necessary balance, and almost 80 per cent of the pollution involved emanated from or related to land-based activities. Protection of the marine environment was a very complex issue which encompassed many diverse human activities and thus required a mix of measures of various kinds. It was necessary to bear in mind the indivisibility of the marine environment, the fact that virtually every substance released into the biosphere was carried seaward, the close connection of the marine environment and the freshwater drainage basins and the fact that the world's coastlines were being increasingly overwhelmed by human settlement. The draft Global Programme of Action that was before the Conference (UNEP(OCA)/LBA/IG.2/3) contained a comprehensive, sequential and coordinated approach to the situation that built on the principles of the United Nations Conference on Environment and Development namely, sustainable development, the precautionary principle, holistic considerations and international cooperation. She thus recommended it to the serious consideration of the participants.

11. Ms. Eileen Claussen, Special Assistant to the President of the United States and Senior Director for Global Environmental Affairs of the United States National Security Council, welcomed the participants to the United States of America and said that land-based sources were undoubtedly the main cause of the ocean pollution and loss of marine habitat that threatened the health and economic well-being of the majority of the world's population living in coastal areas. It was evident from the statistics that the marine environment was of crucial importance to human survival and that it was by no means in a healthy condition. Its protection was thus a major challenge. Significant progress had been made in recent months in addressing fisheries issues, and the current Conference provided the opportunity to achieve comparable progress in controlling pollution from land-based activities. That meant not only completing the task of drafting the Global Programme of Action but also demonstrating political will by making a companion High-Level Declaration outlining in a succinct fashion steps to implement the Programme and reaffirming the commitment to do so.

12. The representative of Iceland, speaking as Chairman of the final preparatory meeting for the Conference, said that failure to act in the near future to halt the degradation of the oceans would be a blow to the people of the world and a betrayal of future generations. He stressed the importance of the effective implementation of the Global Programme of Action, reminding participants that the carefully drafted Montreal Guidelines for the Prevention of Marine Pollution from Land-based Sources,

which contained no compliance requirements, had not had the effects that had been expected. He further stressed, in particular, the enormous threat to the environment posed by persistent organic pollutants (POPs), on which immediate international action was needed. Having given an account of the work done on the draft Global Programme of Action at the preparatory meeting in Reykjavik, he said that the work of the current Conference would be a major input to the forthcoming session of the Commission on Sustainable Development, in its consideration of chapter 17, relating to the oceans, of Agenda 21.

II. ORGANIZATION OF THE MEETING

A. Rules of procedure

13. The Conference decided to apply the rules of procedure of the Governing Council of UNEP mutatis mutandis to its proceedings.

B. Election of officers

14. The Conference elected by acclamation the following officers:

Chairperson:	Ms. Eileen Claussen (United States of America)
Vice-Chairpersons:	Ms. Paula Caballero (Colombia) Mr. Sakkie van der Westhuizen (South Africa) Mr. Dariusz Stanislawski (Poland)
Rapporteur:	Mr. Laavasa Malua (Western Samoa)
Chairpersons of the Working Groups	
Working Group A:	Mr. Magnus Johannesson (Iceland)
Working Group B:	Mr. Salif Diop (Senegal)
assisted by:	Mr. Mahmoud Abdulraheem (Kuwait)

C. Organization of work

15. The Conference decided that it would work in plenary sessions assisted by two substantive working groups. It further decided that Working Group A would consider chapter IV of the draft Global Programme of Action, and that Working Group B would consider chapters II and III as well as chapters I and V, as deemed necessary.

16. The Conference also adopted its programme of work on the basis of a proposal submitted by the Secretariat (UNEP(OCA)/LBA/IG.2/INF.3).

III. ADOPTION OF THE AGENDA

17. At the suggestion of the Chairperson, the Con erence adopted the following agenda on the basis of the provisional agenda (UNEP(OCA)/LBA/IG.2/1), which had been prepared by the Secretariat on the basis of the draft provisional agenda approved by the Meeting of Government-Designated Experts to Review and Revise a Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, held at Reykjavik, from 6 to 10 March 1995:

1. Opening of the meeting.

2. Organization of the meeting:

   (a) Rules of procedure;

   (b) Election of officers;

   (c) Organization of work.

3. Adoption of the agenda.

4. Review of the draft Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

5. Future activities.

6. Institutional arrangements.

7. Other matters.

8. Adoption of the Conference proceedings:

   (a) Report of the Conference;

   (b) Global Programme of Action.

9. Closure of the meeting.

IV. REVIEW OF THE DRAFT PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

18. In considering agenda item 4, the Conference had before it the draft Global Programme of Action (UNEP(OCA)/LBA/IG.2/3 and Add. 1-7 containing the comments on the Global Programme of Action received by the secretariat prior to the Conference). The Conference was also provided with a working paper on "Financial and capacity-building aspects of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities" (UNEP(OCA)/LBA/IG.2/4) and other information documents. The full list of documents before the Conference is contained in annex I below.

Work of the Working Groups

19. As agreed by the Conference at its 1st plenary meeting, the draft Global Programme of Action was considered by the Working Groups established for that purpose, as per paragraph 15 above.

20. Under the chairmanship of Mr. Magnus Johannesson (Iceland), Working Group A held 10 meetings, from 23 to 30 October 1995, to consider chapter IV of the draft Programme of Action. At its 1st meeting, the Working Group elected Mr. Alan Simcock (United Kingdom) as Rapporteur by acclamation.

21. Under the chairmanship of Mr. Salif Diop (Senegal), Working Group B held 13 meetings, from 23 October to 1 November, to consider chapters I, II, III and V of the draft Programme of Action. At its 1st meeting, the Working Group elected Mr. M. Abdulraheem (Kuwait) as Vice-Chairman and Mr. J. Karau (Canada) as Rapporteur by acclamation.

22. At its 2nd plenary meeting, on 26 October, the Conference heard a progress report from the Chairmen of the Working Groups.

23. Working Group A presented its final report to plenary on 2 November 1995, together with a revised text of chapter IV of the draft Programme of Action (UNEP(OCA)/LBA/IG.2/L.2 and annex).

24. Working Group B presented its final report to plenary on 2 November 1995, together with a revised text of chapters I, II, III and V of the draft Programme of Action (UNEP(OCA)/LBA/IG.2/L.3 and Add. 1-3). In reviewing section D of chapter II of the revised text the representative of Chile indicated that the term "best available techniques" should be replaced by "best applicable technology". However, the Conference subsequently agreed that throughout the Global Programme of Action, the term "best available techniques" is understood to include socio-economic factors.

High-level Segment

25. As decided by the Conference at its 1st plenary meeting, the High-Level Segment of the Conference was held on 31 October and 1 November 1995. At the 1st session of the High-Level Segment of the Conference, statements were made by Mr. Strobe Talbott, Deputy Secretary of State of the United States; Mr. Wang Yuquing, Deputy Administrator of the National Environmental Protection Agency of China; Mr. Ulrich Klinkert, Parliamentary State Secretary, Ministry of the Environment, Nature Conservation and Nuclear Safety, of Germany; Mr. Gudmundur Bjarnason, Minister of the Environment of Iceland; Ms. Phyllis Mitchell, Parliamentary Secretary, Ministry of Environment and Housing, of Jamaica; Mr. Bernard Blaszczyk, Deputy Minister for Environmental Protection, Natural Resources and Forestry, of Poland; Mr. Joaquin Perez Villanueva, Minister-Counsellor, European Union Presidency, of Spain, on behalf of the European Union; Mr. Lee Ki Choo, Ambassador for Economic and Trade Affairs, Ministry of Foreign Affairs of the Republic of Korea; and Mr.

Antonio Dayrell de Lima, Minister, Ministry of Foreign Affairs of Brazil. Ms. Christina Amoako-Nuama, Minister of Environment, Science and Technology, of Ghana submitted a statement in writing to the secretariat.

26. After the statements, the Conference heard a presentation by the Earl of Lindsay (United Kingdom), Parliamentary Under-Secretary of State, Scottish Office, on institutional follow-up and preparations for consideration of oceans issues by the Commission on Sustainable Development.

27. Subsequent sessions of the High-Level Segment were devoted to: the mobilization of resources/finance, with presentations by Mr. Anders Wijkman (United Nations Development Programme), Mr. Stephen Lintner (World Bank), Mr. Ian Johnson (Global Environment Facility), Mr. Lopez Ocana (Inter-American Development Bank) and Mr. Curley (FINEX); persistent organic pollutants (POPs), with presentations by Mr. Huggett, Assistant Administrator for Research and Development, Environmental Protection Agency of the United States of America, Mr. Paje, Assistant Secretary, Department of the Environment and Natural Resources of the Philippines and Mr. Ritter of the University of Guelph, Ontario, Canada, and the Canadian Network of Toxicology Centres; and sewage and waste water, with presentations by Dr. Herbert L. Windom, Acting Director of the Skidaway Institute of Oceanography and Mr. Henry Salas, Advisor in Water Pollution Control at the Pan American Center for Sanitary Engineering and Environmental Sciences. At each of the sessions, the presentations were followed by a general discussion on the topics concerned.

28. At the 3rd session of the High-Level Segment, the Conference had the privilege of hearing an address by United States Vice-President Albert Gore, who stressed the importance of the oceans and the marine environment, which were indispensable for life on Earth, and the serious degradation afflicting them, stating that Homer's "wine-dark sea" was taking on more ominous colours. Protection of the marine environment from land-based activities was a major element of the remedial action required, and the work of the Conference was thus both important and timely. He gave examples of successful actions that have been carried out, in the United States of America and elsewhere, based on partnership between the sectors, local involvement, a comprehensive approach and innovative financing, mentioning that, in many cases, they had produced very beneficial economic effects. He ended by wishing the participants well in their deliberations which, he hoped, would result in an effective, affordable and sustainable Global Programme of Action.

29. At the closing session of the High-Level Segment, the Washington Declaration on Protection of the Marine Environment from Land-based Activities was adopted on the basis of a proposal introduced by the United Kingdom on behalf of a number of delegations. The final text of the Declaration is contained in annex II to the present report.

V. FUTURE ACTIVITIES

30. At its 3rd plenary meeting, on 30 October, the Conference heard a statement from Mr. Jorge Illueca, Assistant Executive Director, Division of Environmental Management Support, on UNEP plans for the implementation of the Programme of Action in the period 1996-1997.

31. The Assistant Executive Director said that, during the first two months of 1996, the secretariat would review the status of activities dealing with the protection of the marine environment from land-based activities in all 13 regions of the UNEP Regional Seas Programme and other regional seas and activities. Based on that review, a series of regional workshops would be organized to identify the particular activities and projects that individual nations and regions would both have to carry out to develop and begin implementation of regional strategic programmes. The workshops would agree on timetables and work programmes, considering the following steps identified in the Global Programme of Action for developing systematically action programmes dealing with land-based activities:

(a) Identification and ranking of public health, ecosystem health, and socio-economic/cultural problems;

(b) Identification of contaminants of concern;

(c) Identification of forms of physical alteration;

(d) Identification of areas (units) of special concern;

(e) Identification of public health and ecosystem health and biodiversity management objectives;

(f) Identification of relative contributions from land-based sources;

(g) Identification, evaluation and selection of strategies for the management of land-based sources; and

(h) Management strategy evaluation criteria.

32. The Assistant Executive Director further indicated that the implementation plan that UNEP would be requested to prepare under the adopted Programme of Action would cover the secretariat's structure, modalities of operation, and three basic functions: coordination; clearing-house role; and mobilization of resources. A first draft would be prepared by the end of 1995 for submission to an inter-agency consultation in January 1996. The paper would be finalized in January 1996, taking into consideration the outcome of that consultation, and would be available for the inter-sessional meeting of the Commission on Sustainable Development in February.

VI. INSTITUTIONAL ARRANGEMENTS

33. Agenda item 6 was not taken up separately in plenary, since the Conference considered that the subject-matter was adequately covered by the discussion on chapter IV in Working Group A, which focused on:

(a) The need for a series of interlinked steps to develop the international institutional framework for the implementation of the Global Programme of Action, which should be based upon concerted action by States within the relevant organizations and institutions to accord attention and priority to impacts on the marine environment from land-based activities and concerted action by States to ensure effective coordination and collaboration among such organizations and institutions;

(b) The functions of UNEP, as the coordinator and catalyst of environmental activities within the United Nations system, in the implementation of the Programme of Action;

(c) The need for UNEP to fulfil its role, including the secretariat function, in an efficient and cost-effective manner, supported largely by the existing resources, expertise and infrastructure available in all components of UNEP's programmes, and the need for UNEP to be flexible and responsive to the evolving needs of the Programme and the availability of resources, e.g. from trust funds;

(d) The need for UNEP, in facilitating the implementation of the Programme of Action, to maintain a close partnership with other organizations and bodies, and the importance of an appropriate division of tasks for the efficient and cost-effective implementation of the Programme;

(e) The terms of reference of periodic intergovernmental review meetings to be convened by UNEP, in close collaboration with the relevant organizations and institutions;

(f) Reporting on the implementation of the Programme of Action;

(g) The steps required to establish the clearing-house mechanism;

(h) The steps for developing the institutional arrangements, including the preparation by UNEP of an implementation plan for submission to the Commission on Sustainable Development, and the preparation of a draft resolution setting forth the provisions of the Programme of Action for consideration and adoption by the General Assembly at its fifty-first session.

34. The text of the agreed international institutional framework is included in section C of chapter IV of the Global Programme of Action as adopted (UNEP(OCA)/LBA/IG.2/7).

VII. OTHER MATTERS

Statement by Australia on behalf of the Federated States of Micronesia, Kiribati, the Marshall Islands, Nauru, New Zealand, Samoa and Vanuatu

35. The representative of Australia indicated that South Pacific environment ministers had met in Brisbane, Australia, in August 1995 and had called for an immediate end to all nuclear testing in all environments. Consistent with the outcome of that meeting, Australia wished to make the following statement on behalf of the South Pacific Forum countries participating in the Conference:

> "Forum countries reiterate their profound concern and dismay over the continuation of French nuclear testing in the South Pacific, against the unambiguous and concerted opposition of the countries of the region.
>
> "Such testing is environmentally irresponsible and encourages scepticism about the Nuclear Non-Proliferation Treaty.
>
> "We call for the immediate cessation of nuclear testing and for all States, particularly nuclear weapon States, to commit themselves to concluding a zero-threshold comprehensive test-ban treaty no later than the end of 1996."

36. Many other representatives expressed their support for the statement by Australia.

37. The representative of India expressed her Government's belief that the Comprehensive Test Ban Treaty (CTBT), in order to be meaningful as a disarmament treaty, must be considered as part of a step-by-step process leading towards the complete elimination of all nuclear weapons within a specified timeframe.

VIII. ADOPTION OF THE CONFERENCE PROCEEDINGS

A. Report of the Conference

38. At the final plenary meeting, on 3 November 1995, the Conference adopted its report on the basis of its draft report contained in document UNEP(OCA)/LBA/IG.2/L.1/Rev.1.

B. Global Programme of Action

39. The Conference adopted the Global Programme of Action, on the basis of the draft Global Programme of Action, as amended by the Working Groups (documents UNEP(OCA)/LBA/IG.2/L.2 and L.3 and Add.1-3). It decided that the annex to the draft Global Programme of Action (UNEP(OCA)/LBA/IG.2/3, pp. 50-59) should not be attached to the adopted Programme but should be used for further elaboration by the UNEP secretariat in its future work of developing the Programme.

40. The Global Programme of Action as adopted is contained in document UNEP(OCA)/LBA/IG.2/7.

41. The Conference decided that the footnote to paragraph 26 (a) (i) a of the Global Programme of Action should also be deemed to apply to paragraph 16 of the Washington Declaration.

42. The representative of Australia made a statement supporting the Conference decision on persistent organic pollutants.

43. The representative of the Netherlands, supported by many other representatives, indicated that paragraph 88 of the Global Programme of Action did not reflect the urgent need to develop an international legally-binding instrument on persistent organic pollutants. However, UNEP Governing Council decisions 18/31 and 18/32 would enable work to start on the elaboration of elements for inclusion in such an instrument.

44. The representative of Greenpeace, also speaking on behalf of the Advisory Committee on Protection of the Sea (ACOPS), Friends of the Earth, and the World Wide Fund for Nature (WWF), said that those organizations supported the statement by the Netherlands.

45. The representative of the United States indicated that paragraph 6 of the Global Programme of Action should be interpreted in a manner consistent with the language of the United Nations Convention on the Law of the Sea (UNCLOS).

46. The representative of India indicated that the current approach of her Government, which had always been in the forefront of efforts and negotiations to achieve nuclear disarmament, was in line with that adopted by the non-aligned countries at their recent Cartagena meeting, namely that the process must be a step-by-step and time-specific one resulting in complete nuclear disarmament.

47. The representative of Ecuador expressed the hope that the new and additional resources proposed in the Programme of Action would assist in addressing the serious problems of river pollution in his country as a result of the use of pesticides in agricultural areas. He also reaffirmed his Government's willingness to collaborate with all countries at the regional and international levels to reduce pollution of the marine environment, including its support for the policy of ending nuclear tests such as those being conducted in the Pacific Ocean.

48. The representative of France stated that his delegation had joined in the consensus for the adoption of section C of chapter V of the Global Programme of Action. However, it regarded paragraph 107 of the Global Programme of Action, citing nuclear testing as among the potential sources of pollution of the marine environment, as referring exclusively to atmospheric tests.

49. The representative of Greenpeace stated that three reports published under the auspices of the French Government outlined the existence of

significant long-term risks in connection with underground testing at Mururoa and Fangataufa. It was the view of Greenpeace that the only responsible course of action consistent with the precautionary principle was an immediate end to underground nuclear testing.

50. The representative of Peru expressed the hope that the developing countries would receive support from the developed world in their efforts to combat pollution of the marine environment.

51. The representative of Colombia said that issue of marine pollution from land-based activities was a global one. The Programme of Action would be helpful for both developing and developed countries and represented a positive step for the future.

52. The representative of Sri Lanka expressed the hope that all countries would take the necessary action for the implementation of the Programme of Action.

53. The representative of Brazil said that there could be no turning back from the agreements reached at the Conference. The Programme of Action would be a very important part of the coordination work on oceans by the Commission on Sustainable Development.

54. The representative of Poland stressed the importance his Government attached to the Programme of Action.

IX. CLOSURE OF THE MEETING

55. The Conference expressed its sincere gratitude to UNEP for organizing the Conference and to the Government of the United States of America for having acted as host. Several participants also thanked the Chairperson for the gracious and expeditious way in which she had guided the Conference.

56. The Deputy Executive Director of UNEP, Professor Reuben Olembo, speaking on behalf of the Executive Director, made a closing statement in which he expressed UNEP's satisfaction with the outcome of the Conference, and thanked the host Government, the Chairperson and all those involved in the organization and conduct of the Conference.

57. The Chairperson, in her turn, thanked all delegations for their active participation and cooperation and UNEP secretariat for its efficient organization of the Conference which, in her opinion, had been a great success. She then declared the Conference closed at 11 a.m. on 3 November 1995.

Appendix I

LIST OF DOCUMENTS

A. Working documents

UNEP(OCA)/LBA/IG.2/1	Provisional agenda
UNEP(OCA)/LBA/IG.2/2	Annotated provisional agenda
UNEP(OCA)/LBA/IG.2/3	Draft Global Programme of Action for the Protection of the Marine Environment from Land-based Sources of Pollution
UNEP(OCA)/LBA/IG.2/3/Add.1	Comments on the draft Global Programme of Action: comments of the Netherlands
UNEP(OCA)/LBA/IG.2/3/Add.2	Comments on the draft Global Programme of Action: comments of Australia
UNEP(OCA)/LBA/IG.2/3/Add.3	Comments on the draft Global Programme of Action: comments of the Oslo and Paris Commissions (OSPAR)
UNEP(OCA)/LBA/IG.2/3/Add.4	United States of America: proposal for the revision of chapters I, II and III of the draft Global Programme of Action
UNEP(OCA)/LBA/IG.2/3/Add.5	Amendment proposals to the draft Programme of Action for the Protection of the Marine Environment from Land-based Sources of Pollution: proposals prepared by the Meeting of Experts to Prepare Regional Position to the Washington Intergovernmental Conference on the Global Programme of Action to Protect the Marine Environment from Land-based Activities
UNEP(OCA)/LBA/IG.2/3/Add.6	Comments on the draft Programme of Action: comments of Iceland

UNEP(OCA)/LBA/IG.2/3/Add.7	Comments on the draft Programme of Action: preliminary comments of Japan
UNEP(OCA)/LBA/IG.2/4	Financial and capacity-building aspects of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities: report of the secretariat (prepared on the basis of the discussion at the Consultation on Financial and Capacity-building Issues related to the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, held in Washington D.C. from 16 to 18 August 1995)
UNEP(OCA)/LBA/IG.2/5	Contribution of the United Nations Environment Programme to the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities: note by the secretariat

B. Information documents

UNEP(OCA)/LBA/IG.2/INF.1	Provisional list of documents
UNEP(OCA)/LBA/IG.2/INF.2	Provisional list of participants
UNEP(OCA)/LBA/IG.2/INF.3	Conference programme and timetable
UNEP(OCA)/LBA/IG.2/INF.4	Report of the Meeting of Government-designated Experts to Review and Revise a Global Programme of Action to Protect the Marine Environment from Land-based Activities, Reykjavik, 6-10 March 1995
UNEP(OCA)/LBA/IG.2/INF.5	Report of the Preliminary Meeting of Experts to Assess the Effectiveness of Regional Seas Agreements

UNEP(OCA)/LBA/IG.2/INF.6	Report of the Meeting of Government-designated Experts Focusing on the 1985 Montreal Guidelines for the Protection of the Marine Environment from Land-based Sources of Pollution
UNEP(OCA)/LBA/IG.2/INF.7	Recommendations of the ACOPS Conference on Funding and Institutional Issues for the Washington Action Programme on Protection of the Marine Environment from Land-based Activities
UNEP(OCA)/LBA/IG.2/INF.8	Comments on annex, section G, "Litter", of the draft Global Programme of Action: submission of the Workshop on Legal and Policy Aspects of Land-based Sources of Marine Debris - Austin, Texas, USA, 22-24 June 1995
UNEP(OCA)/LBA/IG.2/INF.9	Persistent organic pollutants - an assessment report on: DDT-aldrin-dieldrin-endrin-chlorane, heptachlor-hexachlorobenzene-mirex-toxaphene, polychlorinated biphenyls, dioxins and furans: draft interim report prepared by the Inter-Organization Programme for the Sound Management of Chemicals: note by the secretariat
UNEP(OCA)/LBA/IG.2/INF.10/Rev.1 and Corr.1	Arrangements for the High-level Segment of the Conference: information paper submitted by the United States of America

Appendix II

WASHINGTON DECLARATION ON PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

The representatives of Governments and the European Commission participating in the Conference held in Washington from 23 October to 3 November 1995,

Affirming the need and will to protect and preserve the marine environment for present and future generations,

Reaffirming the relevant provisions of chapters 17, 33 and 34 of Agenda 21 and the Rio Declaration on Environment and Development,

Recognizing the interdependence of human populations and the coastal and marine environment, and the growing and serious threat from land-based activities, to both human health and well-being and the integrity of coastal and marine ecosystems and biodiversity,

Further recognizing the importance of integrated coastal area management and the catchment-area-based approach as means of coordinating programmes aimed at preventing marine degradation from land-based activities with economic and social development programmes,

Also recognizing that the alleviation of poverty is an essential factor in addressing the impacts of land-based activities on coastal and marine areas,

Noting that there are major differences among the different regions of the world, and the States which they comprise, in terms of environmental, economic and social conditions and level of development which will lead to different judgments on priorities in addressing problems related to the degradation of the marine environment by land-based activities,

Acknowledging the need to involve major groups in national, regional and international activities to address degradation of the marine environment by land-based activities,

Strongly supporting the processes set forth in decisions 18/31 and 18/32 of 25 May 1995 of the Governing Council of the United Nations Environment Programme for addressing at the global level the priority issues of persistent organic pollutants and adequate treatment of waste water,

Having therefore adopted the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities,

Hereby declare their commitment to protect and preserve the marine environment from the impacts of land-based activities, and

Declare their intention to do so by:

1. Setting as their common goal sustained and effective action to deal with all land-based impacts upon the marine environment, specifically those resulting from sewage, persistent organic pollutants, radioactive substances, heavy metals, oils (hydrocarbons), nutrients, sediment mobilization, litter, and physical alteration and destruction of habitat;

2. Developing or reviewing national action programmes within a few years on the basis of national priorities and strategies;

3. Taking forward action to implement these programmes in accordance with national capacities and priorities;

4. Cooperating to build capacities and mobilize resources for the development and implementation of such programmes, in particular for developing countries, especially the least developed countries, countries with economies in transition and small island developing States (hereinafter referred to as "countries in need of assistance");

5. Taking immediate preventive and remedial action, wherever possible, using existing knowledge, resources, plans and processes;

6. Promoting access to cleaner technologies, knowledge and expertise to address land-based activities that degrade the marine environment, in particular for countries in need of assistance;

7. Cooperating on a regional basis to coordinate efforts for maximum efficiency and to facilitate action at the national level, including, where appropriate, becoming parties to and strengthening regional cooperative agreements and creating new agreements where necessary;

8. Encouraging cooperative and collaborative action and partnerships, among governmental institutions and organizations, communities, the private sector and non-governmental organizations which have relevant responsibilities and/or experience;

9. Encouraging and/or making available external financing, given that funding from domestic sources and mechanisms for the implementation of the Global Programme of Action by countries in need of assistance may be insufficient;

10. Promoting the full range of available management tools and financing options in implementing national or regional programmes of action, including innovative managerial and financial techniques, while recognizing the differences between countries in need of assistance and developed States;

11. Urging national and international institutions and the private sector, bilateral donors and multilateral funding agencies to accord priority to projects within national and regional programmes to implement

the Global Programme of Action and encouraging the Global Environment Facility to support these projects;

12. Calling upon the United Nations Environment Programme, the United Nations Development Programme, the World Bank, the regional development banks, as well as the agencies within the United Nations system to ensure that their programmes support (through, inter alia, financial cooperation, capacity-building and institutional-strengthening mechanisms) the regional structures in place for the protection of the marine environment;

13. According priority to implementation of the Global Programme of Action within the United Nations system, as well as in other global and regional institutions and organizations with responsibilities and capabilities for addressing marine degradation from land-based activities, and specifically:

(a) Securing formal endorsement of those parts of the Global Programme of Action that are relevant to such institutions and organizations and incorporating the relevant provisions into their work programmes;

(b) Establishing a clearing-house mechanism to provide decision makers in all States with direct access to relevant sources of information, practical experience and scientific and technical expertise and to facilitate effective scientific, technical and financial cooperation as well as capacity-building; and

(c) Providing for periodic intergovernmental review of the Global Programme of Action, taking into account regular assessments of the state of the marine environment;

14. Promoting action to deal with the consequences of sea-based activities, such as shipping, offshore activities and ocean dumping, which require national and/or regional actions on land, including establishing adequate reception and recycling facilities;

15. Giving priority to the treatment and management of waste water and industrial effluents, as part of the overall management of water resources, especially through the installation of environmentally and economically appropriate sewage systems, including studying mechanisms to channel additional resources for this purpose expeditiously to countries in need of assistance;

16. Requesting the Executive Director of the United Nations Environment Programme, in close partnership with the World Health Organization, the United Nations Centre for Human Settlements (Habitat), the United Nations Development Programme and other relevant organizations, to prepare proposals for a plan to address the global nature of the problem of inadequate management and treatment of waste water and its consequences for human health and the environment, and to promote the transfer of appropriate and affordable technology drawn from the best available techniques;

17. Acting to develop, in accordance with the provisions of the Global Programme of Action, a global, legally binding instrument for the reduction and/or elimination of emissions, discharges and, where appropriate, the elimination of the manufacture and use of the persistent organic pollutants identified in decision 18/32 of the Governing Council of the United Nations Environment Programme. The nature of the obligations undertaken must be developed recognizing the special circumstances of countries in need of assistance. Particular attention should be devoted to the potential need for the continued use of certain persistent organic pollutants to safeguard human health, sustain food production and to alleviate poverty in the absence of alternatives and the difficulty of acquiring substitutes and transferring of technology for the development and/or production of those substitutes; and

18. Elaborating the steps relating to institutional follow-up, including the clearing-house mechanism, in a resolution of the United Nations General Assembly at its fifty-first session, and in that regard, States should coordinate with the United Nations Environment Programme, as secretariat of the Global Programme of Action, and other relevant agencies within the United Nations system in the development of the resolution and include it on the agenda of the Commission on Sustainable Development at its inter-sessional meeting in February 1996 and its session in April 1996.

Washington, D.C., 1 November 1995

ANNEX II*

GLOBAL PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

Note by the secretariat

The secretariat has the honour to circulate herewith the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, as adopted on 3 November 1995 by the Intergovernmental Conference which met for that purpose in Washington, D.C., from 23 October to 3 November 1995.

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* Previously issued under the symbol UNEP(OCA)/LBA/IG.2/7.

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I. INTRODUCTION

A. The need for action

1. The major threats to the health and productivity and biodiversity of the marine environment result from human activities on land - in coastal areas and further inland. Most of the pollution load of the oceans, including municipal, industrial and agricultural wastes and run-off, as well as atmospheric deposition, emanates from such land-based activities and affects the most productive areas of the marine environment, including estuaries and near-shore coastal waters. These areas are likewise threatened by physical alteration of the coastal environment, including destruction of habitats of vital importance for ecosystem health. Moreover, contaminants which pose risks to human health and living resources are transported long distances by watercourses, ocean currents and atmospheric processes.

2. The bulk of the world's population lives in coastal areas, and there is a continuing trend towards its concentration in these regions. The health, well-being and, in some cases, the very survival of coastal populations depend upon the health and well-being of coastal systems - estuaries and wetlands - as well as their associated watersheds and drainage basins and near-shore coastal waters. Ultimately, sustainable patterns of human activity in coastal areas depend upon a healthy marine environment, and vice versa.

B. Aims of the Global Programme of Action

3. The Global Programme of Action aims at preventing the degradation of the marine environment from land-based activities by facilitating the realization of the duty of States to preserve and protect the marine environment. It is designed to assist States in taking actions individually or jointly within their respective policies, priorities and resources, which will lead to the prevention, reduction, control and/or elimination of the degradation of the marine environment, as well as to its recovery from the impacts of land-based activities. Achievement of the aims of the Programme of Action will contribute to maintaining and, where appropriate, restoring the productive capacity and biodiversity of the marine environment, ensuring the protection of human health, as well as promoting the conservation and sustainable use of marine living resources.

C. Legal and institutional framework

4. International law, as reflected in the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) and elsewhere, sets forth rights and obligations of States and provides the international basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources.

5. In accordance with general international law, while States have the sovereign right to exploit their natural resources pursuant to their

environmental policies, the enjoyment of such right shall be in accordance with the duty to protect and preserve the marine environment. This fundamental duty is to protect and preserve the marine environment from all sources of pollution, including land-based activities. Of particular significance for the Global Programme of Action are the provisions contained in articles 207 and 213 of UNCLOS.

6. Also of particular importance for the Programme of Action is the emphasis, in parts XII, XIII and XIV of the Convention, dealing, respectively, with protection and preservation of the marine environment, marine scientific research and the development and transfer of marine technology, on the obligation of States to cooperate in the development of the marine scientific and technological capacity of developing States and to provide them with scientific and technical assistance.

7. The duty of States to preserve and protect the marine environment has been reflected and elaborated upon in numerous global conventions and regional instruments (e.g. the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; Convention on Biological Diversity; United Nations Framework Convention on Climate Change; Regional Seas Conventions; International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), etc.). Innovative new principles and approaches applicable to the prevention of the degradation of the marine environment from land-based activities have been included in a number of such agreements.

8. In 1982, the United Nations Environment Programme (UNEP) took the initiative to develop advice to Governments on addressing impacts on the marine environment from land-based activities. This initiative resulted in the preparation of the Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-based Sources in 1985.

9. The duty to protect the marine environment from land-based activities was placed squarely in the context of sustainable development by the United Nations Conference on Environment and Development in 1992. Therein, States agreed it is necessary:

(a) To apply preventive, precautionary, and anticipatory approaches so as to avoid degradation of the marine environment, as well as to reduce the risk of long-term or irreversible adverse effects upon it;

(b) To ensure prior assessment of activities that may have significant adverse impacts upon the marine environment;

(c) To integrate protection of the marine environment into relevant general environmental, social and economic development policies;

(d) To develop economic incentives, where appropriate, to apply clean technologies and other means consistent with the internalization of

environmental costs, such as the "polluter pays" principle, so as to avoid degradation of the marine environment;

(e) To improve the living standards of coastal populations, particularly in developing countries, so as to contribute to reducing the degradation of the coastal and marine environment.

10. As set out in paragaph 17.23 of Agenda 21, States agree that provision of additional financial resources, through appropriate international mechanisms, as well as access to cleaner technologies and relevant research, would be necessary to support action by developing countries to implement this commitment.

11. Agenda 21 linked the implementation of those duties with action to implement commitments to integrated management and sustainable development of the marine environment, including coastal areas under national jurisdiction. In this regard, States agreed to implement the provisions of the programme of action adopted at the World Coast Conference in Noordwijk in 1993 and to further develop those provisions in order to make them more operational.

12. Agenda 21 also linked action to combat marine degradation caused by land-based activities to action to address the specific problems of small island developing States. In this regard, States agreed to implement the provisions of the priority areas of the Programme of Action for the Sustainable Development of Small Island Developing States, adopted in Barbados in 1994.

13. In order to promote, facilitate and finance implementation of Agenda 21 by developing countries, an objective of Agenda 21 is to provide additional financial resources that are both adequate and predictable. Another objective in this context is to promote, facilitate and finance, as appropriate, the access to and the transfer of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable terms, including concessional and preferential terms, as mutually agreed, taking into account the need to protect intellectual property rights as well as the special needs of developing countries for the implementation of Agenda 21.

D. The Global Programme of Action

14. The Programme of Action, therefore, is designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities in devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities. Effective implementation of this Programme of Action is a crucial and essential step forward in the protection of the marine environment and will promote the objectives and goals of sustainable development.

15. The Global Programme of Action reflects the fact that States face a growing number of commitments flowing from Agenda 21 and related conventions. Its implementation will require new approaches by, and new forms of collaboration among, Governments, organizations and institutions with responsibilities and expertise relevant to marine and coastal areas, at all levels - national, regional and global. These include the promotion of innovative financial mechanisms to generate needed resources.

II. ACTIONS AT THE NATIONAL LEVEL

Basis for action

16. Sustainable use of the oceans depends on the maintenance of ecosystem health, public health, food security, and economic and social benefits including cultural values. Many countries depend on sources of income from activities that would be directly threatened by degradation of the marine environment: industries such as fishing and tourism are obvious examples. The subsistence economy of large coastal populations, in particular in the developing countries, is based on marine living resources that would also be threatened by such degradation. Also to be considered are the impacts of such degradation on maritime culture and traditional lifestyles.

17. Food security is threatened, in particular in developing countries, by the loss of marine living resources that are vital for the adequate provision of food and for combating poverty. Public health considerations from a degraded marine environment manifest themselves through the contamination of seafood, direct contact, such as through bathing, and the use of sea water in desalination and food-processing plants.

Objectives

18. To develop comprehensive, continuing and adaptive programmes of action within the framework of integrated coastal area management which should include provisions for:

(a) Identification and assessment of problems;

(b) Establishment of priorities;

(c) Setting management objectives for priority problems;

(d) Identification, evaluation and selection of strategies and measures, including management approaches;

(e) Criteria for evaluating the effectiveness of strategies and programmes;

(f) Programme support elements.

Actions

19. States should, in accordance with their policies, priorities and resources, develop or review national programmes of action within a few years and take forward action to implement these programmes with the assistance of the international cooperation identified in chapter IV, in particular to developing countries, especially the least developed countries, countries with economies in transition and small island developing States (hereinafter referred to as "countries in need of assistance"). The effective development and implementation of national programmes of action should focus on sustainable, pragmatic and integrated environmental management approaches and processes, such as integrated coastal area management, harmonized, as appropriate, with river basin management and land-use plans.

20. Recommended actions to give effect to the objectives in the development of national programmes of action by States are summarized in sections A, B, C, D, E and F below. They are illustrated in more detail in the actions and targets identified in chapter V below.

A. Identification and assessment of problems

21. The identification and assessment of problems is a process of combining five elements:

(a) Identification of the nature and severity of problems in relation to:

(i) Food security and poverty alleviation;

(ii) Public health;

(iii) Coastal and marine resources and ecosystem health, including biological diversity;

(iv) Economic and social benefits and uses, including cultural values;

(b) Contaminants:

(not listed in order of priority)

(i) Sewage;

(ii) Persistent organic pollutants;

(iii) Radioactive substances;

(iv) Heavy metals;

(v) Oils (hydrocarbons);

(vi) Nutrients;

(vii) Sediment mobilization;

(viii) Litter;

(c) Physical alteration, including habitat modification and destruction in areas of concern;

(d) Sources of degradation:

(i) Point sources (coastal and upstream), such as:

(not listed in order of priority)

a. Waste-water treatment facilities;

b. Industrial facilities;

c. Power plants;

d. Military installations;

e. Recreational/tourism facilities;

f. Construction works (e.g., dams, coastal structures, harbour works and urban expansion);

g. Coastal mining (e.g., sand and gravel);

h. Research centres;

i. Aquaculture;

j. Habitat modification (e.g., dredging, filling of wetlands or clearing of mangrove areas);

k. Introduction of invasive species;

(ii) Non-point (diffuse) sources (coastal and upstream), such as:

(not listed in order of priority)

a. Urban run-off;

b. Agricultural and horticultural run-off;

c. Forestry run-off;

d. Mining waste run-off;

e. Construction run-off;

f. Landfills and hazardous waste sites;

g. Erosion as a result of physical modification of coastal features;

(iii) Atmospheric deposition caused by:

a. Transportation (e.g., vehicle emissions);

b. Power plants and industrial facilities;

c. Incinerators;

d. Agricultural operations;

(e) Areas of concern (what areas are affected or vulnerable):

(not listed in order of priority)

(i) Critical habitats, including coral reefs, wetlands, seagrass beds, coastal lagoons and mangrove forests;

(ii) Habitats of endangered species;

(iii) Ecosystem components, including spawning areas, nursery areas, feeding grounds and adult areas;

(iv) Shorelines;

(v) Coastal watersheds;

(vi) Estuaries and their drainage basins;

(vii) Specially protected marine and coastal areas; and

(viii) Small islands.

B. Establishment of priorities

22. Priorities for action should be established by assessing the five factors described above and should specifically reflect:

(a) The relative importance of impacts upon food security, public health, coastal and marine resources, ecosystem health, and socio-economic benefits, including cultural values, in relation to:

(i) Source-categories (contaminants, physical alteration, and other forms of degradation and the source or practice from which they emanate);

(ii) The area affected (including its uses and the importance of its ecological characteristics);

(b) The costs, benefits and feasibility of options for action, including the long-term cost of no action.

23. In the process of establishing priorities for action and throughout all stages of developing and implementing national programmes of action, States should:

(a) Apply integrated coastal area management approaches, including provision to involve stakeholders, in particular local authorities and communities and relevant social and economic sectors, including non-governmental organizations, women, indigenous people and other major groups;

(b) Recognize the basic linkages between the freshwater and marine environments through, inter alia, application of watershed management approaches;

(c) Recognize the basic linkages between sustainable management of coastal and marine resources, poverty alleviation and protection of the marine environment;

(d) Apply environmental impact assessment procedures in assessing options;

(e) Take into account the need to view such programmes as an integrated part of existing or future comprehensive environmental programmes;

(f) Take steps to protect: (i) critical habitats, using community-based participatory approaches that are consistent with current approaches to conservation and uses compatible with sustainable development; and (ii) endangered species;

(g) Integrate national action with any relevant regional and global priorities, programmes and strategies;

(h) Establish focal points to facilitate regional and international cooperation;

(i) Apply the precautionary approach and the principle of intergenerational equity.

24. The precautionary approach should be applied through preventive and corrective measures based on existing knowledge, impact assessments, resources and capacities at national level, drawing on pertinent information and analyses at the subregional, regional and global levels. Where there are threats of serious or irreversible damage, lack of full

scientific certainty should not be used as a reason for postponing cost-effective measures to prevent the degradation of the marine environment.

C. Setting management objectives for priority problems

25. On the basis of the priorities established, States should define specific management objectives, both with respect to source categories and areas affected. Such objectives should be set forth in terms of overall goals, targets and timetables, as well as specific targets and timetables for areas affected and for individual industrial, agricultural, urban and other sectors. Wherever possible, States should take immediate preventive and remedial action using existing knowledge, resources, plans and processes.

D. Identification, evaluation and selection of strategies and measures

26. Strategies and programmes to achieve these management objectives should include a combination of:

(a) Specific measures, including, as appropriate:

(i) Measures to promote sustainable use of coastal and marine resources and to prevent/reduce degradation of the marine environment, such as:

a. Best available techniques* and best environmental practices, including substitution of substances or processes entailing significant adverse effects;

b. Introduction of clean production practices, including efficient use of energy and water in all economic and social sectors;

c. Application of best management practices;

d. Use of appropriate, environmentally sound and efficient technologies;

e. Product substitution;

(ii) Measures to modify contaminants or other forms of degradation after generation, such as:

a. Waste recovery;

b. Recycling, including effluent reuse;

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* For the purposes of this Programme, "best available techniques" is understood to include socio-economic factors.

c. Waste treatment;

(iii) Measures to prevent, reduce or ameliorate degradation of affected areas, such as:

a. Environmental quality criteria, with biological, physical and/or chemical criteria for measuring progress;

b. Land-use planning requirements, including criteria for siting of major facilities;

c. Rehabilitation of degraded habitats;

(b) Requirements and incentives to induce action to comply with measures, such as:

(i) Economic instruments and incentives, taking into account the "polluter pays" principle and the internalization of environmental costs;

(ii) Regulatory measures;

(iii) Technical assistance/cooperation, including training of personnel;

(iv) Education and public awareness;

(c) Identification/designation of the institutional arrangement with the authority and resources to carry out management tasks associated with the strategies and programmes, including implementation of compliance provisions;

(d) Identification of short-term and long-term data-collection and research needs;

(e) Development of a monitoring and environmental-quality reporting system to review and, if necessary, help adapt the strategies and programmes;

(f) Identification of sources of finance and mechanisms available to cover the costs of administering and managing the strategies and programmes.

E. Criteria for evaluating the effectiveness of strategies and measures

27. A key element in successful strategies and programmes is to develop ongoing means of determining whether they are meeting their management objectives. States should develop specific criteria to evaluate the effectiveness of such strategies and programmes. While such criteria must be tailored to the particular mix of elements (illustrated in section C above) in each strategy or programme, they should address:

(a) Environmental effectiveness;

(b) Economic costs and benefits;

(c) Equity (costs and benefits of the strategy or programme are being shared fairly);

(d) Flexibility in administration (the strategy or programme can adapt to changes in circumstances);

(e) Effectiveness in administration (management of the strategy or programme is cost-effective and accountable);

(f) Timing (the timetable needed to put the strategy or programme in place and to begin producing results);

(g) Inter-media effects (the achievement of the objectives of the strategy or programme creates a net environmental benefit).

F. Programme support elements

28. The long-term objective of national programmes of action should be to develop integrated strategies and programmes to address all action priorities in relation to impacts upon the marine environment from land-based activities. In addition, the programmes of action must themselves be integrated with overall national objectives and other relevant programmes in relation to sustainable development. States therefore should seek to ensure that there are administrative and management structures necessary to support the national programmes of action. These include, as appropriate:

(a) Organizational arrangements to coordinate among sectors and sectoral institutions;

(b) Legal and enforcement mechanisms (e.g., need for new legislation);

(c) Financial mechanisms (including innovative approaches to provide continuing and predictable programme funding);

(d) Means of identifying and pursuing research and monitoring requirements in support of the programme;

(e) Contingency planning;

(f) Human resources development and education;

(g) Public participation and awareness (e.g., based on integrated coastal area management principles).

III. REGIONAL COOPERATION

Basis for action

29. Regional and subregional cooperation and arrangements are crucial for successful actions to protect the marine environment from land-based activities. This is particularly so where a number of countries have coasts in the same marine and coastal area, most notably in enclosed or semi-enclosed seas. Such cooperation allows for more accurate identification and assessment of the problems in particular geographic areas and more appropriate establishment of priorities for action in these areas. Such cooperation also strengthens regional and national capacity-building and offers an important avenue for harmonizing and adjusting measures to fit the particular environmental and socio-economic circumstances. It, moreover, supports a more efficient and cost-effective implementation of the programmes of action.

Objectives

30. To strengthen and, where necessary, create new regional cooperative arrangements and joint actions to support effective action, strategies and programmes for:

(a) Identification and assessment of problems;

(b) Establishment of targets and priorities for action;

(c) Development and implementation of pragmatic and comprehensive management approaches and processes;

(d) Development and implementation of strategies to mitigate and remediate land-based sources of harm to the coastal and marine environment.

Activities

A. Participation in regional and subregional arrangements

31. States should:

(a) Pursue more active participation, including accession or ratification, as appropriate, in regional seas and other international marine and freshwater agreements, conventions and related arrangements;

(b) Strengthen existing regional conventions and programmes, and their institutional arrangements;

(c) Negotiate as, appropriate, new regional conventions and programmes.

B. Effective functioning of regional and subregional arrangements

32. With respect to the institutional aspects of regional and subregional arrangements, States should:

(a) Invite multilateral financing agencies, including regional development banks, and national institutions for bilateral development cooperation to cooperate in programming and in national implementation of regional agreements in the developing country regions;

(b) National action strategies and programmes can sometimes be best developed in a regional and subregional context. In developing such programmes of action, due consideration should be given to the suggested approaches and targets identified in chapter V of the present Programme of Action, and to the methodology specified in chapter II above. The programmes of action should be developed and implemented on a timetable appropriate to regional or subregional circumstances and decided upon by the governing bodies of the regional or subregional agreements, conventions or arrangements as appropriate;

(c) Establish or strengthen regional information networks and linkages for communicating with clearing-houses and other sources of information;

(d) Ensure close collaboration between the national and regional focal points and regional economic groupings, other relevant regional and international organizations, development banks and regional rivers authorities/commissions, in the development and implementation of regional programmes of action;

(e) Encourage and facilitate cooperation between and among regional organizations/conventions to promote the exchange of information, experience and expertise;

(f) Ensure that there is adequate secretariat support for regional and subregional arrangements (legal agreements and programmes of action), including:

(i) Clear definition of secretariat functions and responsibilities;

(ii) Consolidation of secretariats, including reliance on existing institutional arrangements, where cost-effective;

(iii) Cooperation between secretariats;

(iv) Close integration of regional and subregional programmes of action and the relevant legal agreements that apply to the region and subregion.

33. In the development and implementation of the regional programmes of action, consideration should also be given to the following:

(a) Steps towards harmonization of environmental and control standards for emissions and discharges of pollutants, and agreement on data-quality assurance standards, data validation, comparative analyses, reference methods and training that are required for reliable monitoring and assessment carried out for the protection of the marine environment from land-based activities;

(b) Steps to protect critical habitats and endangered species;

(c) Exploring the use of innovative financing mechanisms that will assist the implementation of national and regional programmes of action;

(d) Building capacity and, where appropriate, identifying regional centres of excellence for research, management tools and concepts, training and capacity-building as well as contingency-planning, monitoring and assessment, including environmentally sound technology assessment;

(e) Arrangements to ensure that decision-making at the regional level is based on an integrated planning and management approach adopted at the national level;

(f) Establishment of linkages with regional or subregional fisheries arrangements, as well as other mechanisms dealing with conservation of marine species, to promote collaboration in the exchange of data and information and mutual reinforcement in the achievement of respective objectives.

34. Land-locked States whose river systems and drainage basins are linked to a particular marine region or subregion should be encouraged to participate in the relevant regional and subregional arrangements for:

(a) Identification and characterization of drainage basins that are closely linked to degradation of the coastal areas and the marine environment;

(b) Assessment of scale and monitoring of national activities and practices that are associated with degradation of the marine environment;

(c) Establishment or strengthening of national environmental management and surveillance mechanisms and networks that are consistent with regional seas agreements or other arrangements

35. States should encourage, where appropriate, regions to enter into interregional cooperation in order to exchange experiences and to help implement policies. Interregional cooperation may also be necessary to promote coordination of efforts for the protection and preservation of marine ecosystems and habitats.

IV. INTERNATIONAL COOPERATION

Basis for action

36. Effective international cooperation is important for the successful and cost-effective implementation of the Programme of Action. International cooperation serves a central role in enhancing capacity-building, technology transfer and cooperation, and financial support. Moreover, effective implementation of the Programme of Action requires efficient support from appropriate international agencies. Furthermore, international cooperation is required to ensure regular review of the implementation of the Programme and its further development and adjustment.

37. At the global level, there is a need for regular reviews of the state of the world marine environment, as well as dialogues, based on reports from relevant regional organizations, on implementation of regional action programmes, including exchange of experiences, the flow of financial resources in support of the implementation, in particular by countries in need of assistance, of national action to prevent and reduce marine degradation caused by land-based activities as well as scientific and technological cooperation and transfer of cleaner technology, in particular, to countries in need of assistance.

Objective

38. To strengthen existing international cooperation and institutional mechanisms and, where appropriate, to establish new arrangements, in order to support States and regional groups to undertake sustained action to address impacts upon the marine environment from land-based activities. Such actions should be based on the commitments with respect to financial resources contained in chapter 33 of Agenda 21, including paragraph 33.11, and those with respect to transfer of environmentally sound technology, cooperation and capacity-building contained in chapter 34 of Agenda 21, including paragraphs 34.4 and 34.14, as well as the commitments contained in paragraphs 17.23 and 17.48.

Activities

39. Recommended actions to give effect to these objectives in support of national and regional action to prevent and reduce marine degradation caused by land-based activities fall into four general categories:

(a) Capacity-building;

(b) The mobilization of financial resources;

(c) The international institutional framework;

(d) Additional areas of international cooperation.

A. Capacity-building

40. The mechanisms and cooperative actions should include:

(a) The mobilization of experience in support of national and regional action to prevent and reduce marine degradation caused by land-based activities;

(b) A clearing-house mechanism.

These mechanisms and cooperative actions should take into account the special needs of countries in need of assistance, including support for the establishment of infrastructures and the development of action programmes, as well as the alternatives and solutions that such countries are able to offer.

1. Mobilization of experience and expertise

41. States should cooperate to ensure that the most up-to-date information, experience and technical expertise with respect to each source-category of impacts upon the marine environment from land-based activities are made available and brought to bear upon national and regional actions to address such impacts. The steps to this end should include:

(a) Establishment of linkages with international and regional organizations, including specialized agencies, with relevant expertise and responsibilities with respect to particular sources and sectors;

(b) Promotion of cooperative interaction with private-sector groups and non-governmental organizations to introduce cost-effective and environmentally sound practices;

(c) Facilitation and promotion of access, in particular for countries in need of assistance, to new and innovative technologies relevant to each source-category of impacts upon the marine environment from land-based activities, including those causing physical degradation and destruction of habitats;

(d) Promotion of cleaner production techniques, inter alia, through training of industry personnel;

(e) Promotion of new information technologies that facilitate knowledge transfer within countries and between States, including, in particular, from developed countries to countries in need of assistance;

(f) Facilitation of access to sources (public or private, national or multilateral) of technical advice and assistance with respect to particular source-categories and sectors;

(g) Facilitation of identification of opportunities for projects contributing to sustainable development for the private sector, including by industry and banks;

(h) Establishment of linkages with the activities of ongoing international programmes monitoring and assessing the state of marine environment and relevant river systems, for example, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), the Global Ocean Observing System (GOOS), the Global Investigation of Pollution in the Marine Environment (GIPME), the Global Environment Monitoring System/Water, and the World Hydrological Cycle Observing System; and

(i) Establishment of linkages with international organizations, including specialized agencies and other organizations of the United Nations system, for dealing with environmental emergencies.

2. Clearing-house

42. As a means of mobilizing experience and expertise, including facilitation of effective scientific, technical and financial cooperation, as well as capacity-building, States should cooperate in the development of a clearing-house mechanism, i.e., a referral system through which decision makers at the national and regional level are provided with access to current sources of information, practical experience and scientific and technical expertise relevant to developing and implementing strategies to deal with the impacts of land-based activities. The referral system would be designed to allow decision makers to establish rapid and direct contact with the organizations, institutions, firms and/or individuals most able to provide relevant advice and assistance. It would therefore be a mechanism for responding to requests from national Governments on a timely basis. The clearing-house would consist of three basic elements:

(a) A data directory, with components organized by source-category, cross-referenced to economic sectors, containing information on current sources of information, practical experience and technical expertise;

(b) Information-delivery mechanisms to allow decision makers to have ready access to the data directory and obtain direct contact with the sources of information, practical experience and technical expertise identified therein (including the organizations, institutions, firms and/or individuals most able to provide relevant advice and assistance);

(c) Infrastructure - the institutional process for developing, organizing and maintaining the directory and delivery mechanisms.

43. Data directory. The data directory would include a component for each source-category delineated in this Programme of Action. Each such component would contain descriptions and contact information for each existing database and source of practical information and technical expertise. The descriptions and contact information would allow decision

makers to determine which sources of information, experience and expertise are most relevant in a given situation and to contact these sources quickly. A key prerequisite for maintaining the directory is regular review of the descriptions and contact information to ensure that it is up-to-date. For each source-category, the relevant databases and sources of information, experience and expertise are likely to be dispersed among a large number of institutions and repositories, including global and regional organizations and national Governments, the private sector and non-governmental organizations. These institutions and repositories should be fully involved in the development of the data directory component for that source-category. In this way, the directory and its components should be built upon, not replicate, the work of organizations such as the World Bank, the United Nations Development Programme (UNDP), UNEP, including the UNEP International Cleaner Production Information Clearing-house (UNEP/ICPIC), the International Atomic Energy Agency (IAEA), the International Maritime Organization (IMO), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Centre for Human Settlements (UNCHS) (Habitat), the United Nations Industrial Development Organization (UNIDO), the World Health Organization (WHO) and the Arctic Monitoring and Assessment Programme (AMAP) It should in addition make full use of the Small Island Developing States Network (SIDS-NET). Where appropriate, it should also draw upon the work of other intergovernmental and non-governmental organizations and the private sector.

44. Each data-directory component should be organized so as to identify:

(a) Sources of current information, practical experience and technical expertise on:

(i) The nature, pathways, fate and effects of the contaminants or other forms of degradation, including data-quality assurance techniques;

(ii) Standards and reference methods for monitoring contamination, as well as its concentrations, or other forms of degradation, including biological-effects monitoring and data-quality assurance techniques;

(iii) Policies, measures and strategies for action, including mobilization and generation of resources, that have been successfully applied (and those that have been unsuccessful) in addressing activities generating the source-category contaminants or other forms of degradation (what works and what does not); and

(iv) Economically rational, environmentally sound and cleaner practices, techniques and technologies to prevent, mitigate and/or control adverse impacts on the marine environment of land-based activities;

(b) Sources of relevant information:

(i) In international and regional organizations (including non-governmental organizations) with relevant expertise and experience; and

(ii) Concerning intergovernmental and private sources of assistance, scientific, technical and financial, including such matters as the terms and conditions for the provision of such assistance.

45. Information-delivery mechanisms. The clearing-house mechanism must include simple and widely available means of gaining entry to the directory and retrieving information from its components, including directing inquiries to the organizations, institutions, firms and/or individuals most able to provide relevant advice and assistance. In other words, the data directory must be easily accessible to decision makers on a real-time basis. The objective would be user-friendly access to the data directory and its components through electronic means. The World Wide Web on the Internet offers such a basic access mechanism. It is recognized, however, that the Internet is not universally available. It is important, therefore, to also use and build upon existing information-delivery systems, including the UNDP network of resident representatives, INFOTERRA, and linked regional systems, including the secretariats of regional seas and other regional conventions.

46. Infrastructure. The development, organization and maintenance of the data directory and its components and the delivery mechanisms have both specific (source-category) and general dimensions. At the general level, an inter-organizational group should be established by the relevant international organizations to coordinate the basic design and structure of the data directory as well as its linkages to information-delivery mechanisms. This group would be responsible for establishing a common format for the individual source-category components and for cross-referencing among components. It would include representatives of each lead organization responsible for coordinating development of individual data-directory components, those responsible for information-delivery mechanisms, and experts on information technology and other relevant fields.

47. For each source-category component of the data directory, a lead organization should be designated to convene or designate a group of experts to develop the content of specific entries for that component. Issues such as ensuring that entries meet quality and relevance criteria and keywords or search items relevant to the source-category would also be the responsibility of each group of experts. There would be provision to reconvene each such group periodically to update the source-category component, including ensuring that the sources of information, practical experience and technical expertise are relevant and do represent the best sources.

48. Recognizing that many developing States may not have the necessary capacity to benefit from the clearing-house mechanism, this process of implementation should provide for capacity-building, including technical training and infrastructure development.

49. The clearing-house mechanism should be designed to include feedback functions to provide for its refinement and evolution to meet the needs of its users. These feedback functions include:

(a) Identification of data and information gaps and recommendations as to how to address such gaps;

(b) Identification of training and infrastructure requirements for those using the clearing-house mechanism;

(c) Provision for establishment of links between the clearing-house mechanism and regional agreements, institutions and centres holding information, experience and technical expertise of specific relevance to the region concerned.

B. Mobilizing financial resources

50. Alongside the mobilization of experience and expertise, the mobilization of financial resources is the other indispensable foundation for the development and implementation of national and regional programmes for the protection of the marine environment from land-based activities. It is recognized that the development of national and regional action programmes are of primary international importance.

51. While States recognize that, in general, the financing for the implementation of the national and regional programmes of action that will embody this Global Programme of Action should come from each country's own public and private sectors, they reaffirm:

(a) Their conclusion that international cooperation for sustainable development should be strengthened in order to support and complement the efforts of countries in need of assistance;

(b) Their acknowledgement that, for countries in need of assistance, substantial new and additional funding will be required for the actions flowing from Agenda 21;

(c) Their commitment that such funding should be provided in a way that maximizes the availability of new and additional resources and uses all available funding sources and mechanisms,

as set out in paragraph 17.23 and, more generally, in chapter 33 of Agenda 21.

52. There is increasing realization worldwide of the need for action to protect the world's marine environment, described in the opening paragraphs

of this Programme. Equally, it is increasingly realized that land-based activities are the predominant source of adverse impacts on the marine environment. This realization should lead to a correspondingly greater political emphasis, at national, regional and global levels, on the need to ensure the mobilization of the necessary funding for the action needed within the framework of integrated management of coastal zones and, where appropriate, associated watersheds. This in turn should be translated into an increased willingness by partners for international development cooperation to provide financing, including on concessionary and preferential terms, for projects aimed at fulfilling the objectives of this Programme of Action.

1. Scale of funding required

53. There are major differences among the different regions of the world, and the States which they comprise, in terms of geography, physiography, and ecology and, above all, in economic and social conditions, level of development and regional cooperation. In many cases, as well, the impacts on the marine environment of various contaminants and forms of physical disturbance will have different degrees of importance. All these variations will lead to different judgments on the appropriate priorities to be given to tackling the different problems mentioned in chapters II and III above. Each State will therefore develop its own appropriate set of priorities for the tasks that it decides to undertake to protect the marine environment, and these priorities will be reflected in the composition and scale of its national programme of action and any regional programme in which it participates.

54. The amount of funding required for implementation of the present Programme, and the mix of sources and mechanisms that is appropriate, will therefore flow from these national decisions on priorities. The differing national priorities, the range of actions which may need to be undertaken and the variety of sources and mechanisms which may be used, separately or in combination, to finance them mean that there will be significant variations between States in the approach to mobilizing financial resources, in particular between developed and developing States.

2. Range of financing possibilities

55. The funding of action to address the priorities at the national and regional levels, consistent with chapters II, III and V of this Programme, requires, in the first place, the identification of all the various potential domestic funding sources and mechanisms, in order to determine which are appropriate for the priority concerned, and to find ways of linking them in an innovative fashion. An illustrative list of domestic sources and mechanisms is set out in the annex to the present Programme of Action. There will be differences between States, particularly between developed countries and countries in need of assistance, in the extent to which use of these various options is possible. As part of the preparation of their national plans, States should evaluate the potential of these options.

56. For many States, whether developed, developing or in economic transition, it will also be appropriate to look more widely for appropriate sources of financial resources and mechanisms to mobilize them effectively. Funding from domestic sources and mechanisms may be insufficient, particularly for countries in need of assistance. An illustrative list of external sources and mechanisms is also included in the annex to the present Programme of Action. Where appropriate, in the preparation of their national programmes, States should investigate the potential roles of such sources and mechanisms.

57. For countries in need of assistance, there is a limited level of domestic resources available and a wide range of demanding challenges to be faced in many fields. Where the lack of domestic financial resources means that projects in such countries will not be able to proceed, there will be recourse to external financing, particularly funding through grants and concessionary loans. In other cases, external financing, through various innovative schemes (such as co-financing and joint ventures, underwriting of country risks, and venture capital funds) can also act as a catalyst for the mobilization of domestic financial resources and provide leverage to attract additional external financial resources in order to mobilize more efficiently new financial flows.

3. Funding the programmes

58. National and regional programmes should ensure that there is a balance between the projects to be undertaken to implement national and regional priorities and the sources of funding available.

59. Where recourse to external sources and mechanisms for financial resources is necessary, the mix of the various possibilities that will be appropriate will vary from country to country. The pattern of funding will have to be determined in accordance with the decisions on individual projects.

60. Further, countries in need of assistance may need help in capacity-building for:

(a) Development of national programmes of action;

(b) Preparation of national assessments on each source-category;

(c) Identification of ways and means of funding the implementation of the national plans.

61. National and international financial institutions, bilateral donors and other competent regional and international organizations should assist in this capacity-building task.

62. As part of the process of ensuring that intergovernmental agencies and other international bodies take due account of this Programme of Action, and in view of the particular significance of external finance for

countries in need of assistance, it will be necessary for those international agencies concerned with the provision of finance, particularly in the form of grants and concessionary loans, to ensure that their policies give appropriate priority to assistance for projects aimed at the implementation of the Programme. A similar approach is also needed for bilateral assistance. International financial institutions should provide information on the amounts and terms of the financial resources that they might provide, in particular to countries in need of assistance.

63. Improved cooperation and coordination is essential among national institutions, international organizations, including financial institutions, and the private sector and non-governmental organizations, to enhance the effectiveness of the delivery of financial and other support.

64. Mobilizing financial resources is not a one-off task. As part of the follow-up process to this Programme, periodical reviews should be undertaken by the intergovernmental meetings referred to in paragraph 77 below as to whether it has been possible to achieve an appropriate balance between the scale and type of funding required and that which has been available in practice. In the light of such reviews, a conclusion will have to be reached on any problems encountered over access to new and additional funding sources and mechanisms, in accordance with the commitments in Agenda 21.

4. Recommended approaches for projects to be funded

65. The recommendations set out below are intended to highlight features which are important for partners in international development cooperation in the design and evaluation of, and for decisions on, projects for the protection of the marine environment for which external financing is to be sought. With appropriate modifications, they will also apply where a national or regional programme contains a series of related projects.

66. Projects need to be prepared in the context of the overall national or regional strategies, policies and programmes related to the protection of the marine environment, on the basis of its sustainable use and development. Accordingly:

(a) Projects should be derived from the priorities established nationally for the prevention, control and reduction of marine and coastal degradation within the framework of integrated management of coastal zones and, where appropriate, their associated watersheds, and consistent with the national sustainable development strategy;

(b) Chapters II, III and V of this Programme should provide the policy framework for the identification of priorities;

(c) Projects should be consistent with the principles and duty set out in chapter I above.

67. The goals for projects responding to the impact of land based activities upon the marine environment include:

(a) Protection of the health and public amenities of coastal populations, in particular those suffering from poverty and food insecurity, including addressing sewage and industrial effluents;

(b) Conservation of marine living resources, including maintenance or increase of future options for their sustainable use;

(c) Conservation and sustainable use, including restoration, of coastal and marine biological diversity;

(d) Protection, including restoration, of habitats of marine living resources, including critical spawning and feeding areas, as well as areas used or suitable for mariculture;

(e) Alleviation of poverty as a means of reducing pressure on coastal and marine environments;

(f) Addressing, where appropriate, management of associated watersheds.

68. Other features which will make projects more likely to be effective or which will enhance their value generally include:

(a) The involvement of user and local communities that are interested, particularly the economic and social sectors affected;

(b) Consultation with organized civil society and non-governmental organizations, and the private sector;

(c) Provision for capacity-building and the development of institutions, including relevant technology and management training, human-resources development and public outreach and education;

(d) Coordination between those providing external support when several international development partners are involved;

(e) Partnerships and co-financing with the private sector;

(f) Promotion of knowledge and understanding of the marine environment;

(g) Innovation and replicability.

5. The Global Environment Facility

69. The Global Environment Facility (GEF) provides new and additional grants and concessionary loans to eligible countries to meet the agreed environmental costs of measures to achieve agreed global incremental

benefits in four focal areas: climate change, biological diversity, international waters and ozone-layer depletion. The agreed incremental costs of activities concerning land degradation, primarily desertification and deforestation, as they relate to the four focal areas, are also eligible for funding. The international waters and biodiversity focal areas are most directly related to the goals of this Programme of Action, although links between land-based activities and other focal areas should be recognized. Where consistent with its operational strategies, GEF assistance can play an important role in catalysing the necessary national and regional action to address those international concerns identified in this Programme which ultimately have global linkages and global policy implications. GEF funding cannot, however, be a substitute for ordinary development aid.

70. GEF is invited to build upon the work that will be undertaken to implement this Programme of Action and fund the agreed incremental costs of activities consistent with the GEF operational strategy. It is also invited to consider:

(a) Reflecting the unity of the marine environment and its linkages to freshwater systems;

(b) Recognizing that, while the focal area of international waters is to be distinct from other areas of GEF funding, land-based activities may have links both with it and with biological diversity and climate change;

(c) Recognizing the international significance of transboundary pollution which may have its origin in a local area;

(d) Recognizing that, even where pollution or its root cause is confined to a local area, some types of pollution may affect the waters of more than one State, and thus be of international significance;

(e) Including, where appropriate, clearly defined and targeted research and monitoring within projects.

71. States welcome the priority to be given by the GEF operational strategy for international waters to impacts upon the marine environment from land-based activities.

C. International institutional framework

72. A number of international organizations and institutions, including non-governmental organizations, regional and global, have responsibilities and experience with respect to prevention, reduction and control of impacts upon the marine environment from one or more of the source-categories of land-based activities. The international institutional framework for implementation of this Programme of Action, therefore, should be based upon concerted action by States within the relevant organizations and institutions to accord attention and priority to impacts on the marine

environment from land-based activities and concerted action by States to ensure effective coordination and collaboration among such organizations and institutions. In addition, the framework should make provision for regular review of the Programme of Action, including its implementation and necessary adjustments.

73. The process of developing this institutional framework will require a series of interlinked steps. States should commit themselves to taking action within the international organizations and institutions with responsibilitie and experience r- jarding impacts upon the marine environment fro land-based activities:

(a) To secure formal endorsement of those parts of the Programme of Action that are of relevance to such organizations and institutions;

(b) To accord priority to the prevention, reduction and control of impacts upon the marine environment from land-based activities through the economic, social and environmental mandates of such organizations and institutions; and

(c) To review regularly the state of knowledge and the state of the art with respect to the prevention, reduction and control of impacts upon the marine environment from land-based activities through the economic, social and environmental mandates of such organizations and institutions.

74. Recognizing that States have the primary role in the implementation of this Programme of Action, UNEP, as the coordinator and catalyst of environmental activities within the United Nations system and beyond, should, through its programmes and secretariat role:

(a) Promote and facilitate implementation of the Programme of Action at the national level;

(b) Promote and facilitate implementation at the regional, including subregional, level through, in particular, a revitalization of the Regional Seas Programme; and

(c) Play a catalytic role in the implementation at the international level with other organizations and institutions.

75. It is important that in fulfilling this role, including the secretariat function, UNEP should undertake it in an efficient and cost-effective manner, supported largely by the existing resources, expertise and infrastructure available in all components of UNEP's programmes. UNEP should be flexible and responsive to the evolving needs of the Programme and the availability of resources, e.g. from trust funds.

76. In facilitating the effective implementation of the Programme of Action, UNEP should maintain a close partnership with other organizations and bodies, such as IMO, WHO, FAO, the World Meteorological Organization (WMO), UNDP, UNIDO, the Intergovernmental Oceanographic Commission of the

United Nations Educational, Scientific and Cultural Organization (UNESCO/IOC), IAEA, the World Bank and regional development banks, GEF and UNCHS (Habitat), as well as regional bodies supporting the implementation of regional seas and relevant freshwater programmes. An appropriate division of tasks is of essential importance to ensure the efficient and cost-effective implementation of the Programme of Action.

77. UNEP should, in close collaboration with the relevant organizations and institutions, convene periodic intergovernmental meetings to:

(a) Review progress on implementation of the Programme of Action;

(b) Review the results of scientific assessments regarding land-based impacts upon the marine environment provided by relevant scientific organizations and institutions, including GESAMP;

(c) Consider reports provided on national plans to implement the Programme of Action;

(d) Review coordination and collaboration among organizations and institutions, regional and global, that have responsibilities and experience with respect to prevention, reduction and control of impacts upon the marine environment from land-based activities;

(e) Promote exchange of experience between regions;

(f) Review progress on capacity-building (section A of this chapter) and on mobilization of resources (section B of this chapter) to support the implementation of the Programme of Action, in particular by countries in need of assistance and, where appropriate, provide guidance;

(g) Consider the need for international rules, as well as recommended practices and procedures, to further the objectives of the Programme of Action.

78. In preparation for these meetings, States should be encouraged to provide reports, directly or through relevant regional organizations, on the implementation of the Programme of Action. Non-governmental organizations would also be invited to report on relevant activities.

79. A component of the institutional framework for implementation of the Programme of Action is establishment of the clearing-house mechanism called for in section A of this chapter. This will require collaboration between UNEP and a variety of international organizations and institutions, including the United Nations system and international financial institutions. Specific steps include:

(a) Determination of the composition and providing for the establishment of the inter-organizational steering group;

(b) Designation of lead organization(s) for the development and updating of each source-category component in the data directory;

(c) Identification of the appropriate mix of information-delivery systems.

Steps for developing institutional arrangements

80. The process of articulating the institutional framework to support and implement this Programme of Action cuts across existing institutional mandates and will require action within relevant international organizations and institutions, including those of the United Nations system and international financial institutions. It is recommended, therefore, that pertinent provisions outlined in this Programme of Action be set forth in a resolution to be adopted by the United Nations General Assembly at its fifty-first session.

81. The resolution would set forth commitment to the institutional framework outlined in the Programme of Action and agree on specific steps towards its establishment, including the clearing-house. Such steps would include identification of the international organizations and institutions, regional and global, with responsibilities and experience regarding impacts upon the marine environment from land-based activities.

82. It is recommended that the issue of the General Assembly resolution be specifically included on the agenda of the Commission on Sustainable Development for consideration in the context of its review of chapter 17 of Agenda 21, on oceans.

83. The Executive Director of UNEP is called upon to prepare a proposal setting forth a specific plan for implementing the institutional arrangements contained in this Programme of Action, including, in collaboration with other organizations, the preparation of a draft implementation plan and pilot project for the clearing-house. This proposal should be submitted to the inter-sessional meeting for the Commission on Sustainable Development, to be held in February 1996. This plan should include a clear indication of how UNEP intends to carry out its functions in this regard, including secretariat functions, its contributions to the clearing-house mechanism, proposals and action taken on coordination among relevant United Nations and other organizations and how the relevant UNEP programmes, including the Regional Seas Programme, could be strengthened to carry out an effective role in the implementation of this Programme of Action.

D. Additional areas of international cooperation

1. Waste-water treatment and management

84. In accordance with Agenda 21, especially its chapters 17 and 18, States should address the serious public health problems and the degradation of coastal ecosystems that result from the disposal in coastal

areas of inadequately treated waste waters. This situation still affects many countries, particularly countries in need of assistance.

85. States agree that planning for pollution prevention, including cleaner-production approaches and best-practice urban design, and the treatment and management of urban waste water, including urban storm-water and separation of industrial effluent, are priorities in the fulfilment of the objectives of this Programme of Action and of Agenda 21. Mechanisms should be studied to expeditiously channel additional resources for this purpose to countries in need of assistance.

86. The Executive Director of UNEP, in close partnership with WHO, UNDP, UNCHS (Habitat) and other relevant organizations, is called upon to prepare a proposal setting forth a specific plan for addressing the global nature of the problems related to the inadequate management and treatment of waste water. This should take account of work already in progress in WHO and other competent international organizations, including the Noordwijk Action Programme. This plan will enable the issue to be addressed in an expeditious and efficient manner in the follow-up to the Global Programme of Action at the international level.

2. Persistent organic pollutants (POPs)

87. Consistent with decision 18/32 adopted by the UNEP Governing Council in May 1995, States should participate actively in the assessment and development of recommendations concerning the list of twelve substances identified in the UNEP decision.

88. There is agreement that:

(a) International action is needed to develop a global, legally binding instrument, amongst other international and regional actions, for the reduction and/or elimination of emissions and discharges, whether intentional or not, and, where appropriate, the elimination of the manufacture and the use of, and illegal traffic in, the persistent organic pollutants identified in UNEP Governing Council decision 18/32, for which the scientific and technical basis for action is already demonstrated, consistent with the principles of the Rio Declaration, in particular Principle 15;

(b) In developing the instrument called for above, the nature of the obligations undertaken must be developed recognizing the special circumstances of countries in need of assistance. Particular attention should be devoted to the potential need for the continued use of certain POPs and the difficulty of acquiring substitutes and of the transfer of technology for the development of those substitutes. This will require special consideration to be given to economically feasible and environmentally sound ways of ceasing to use, discharge or emit POPs selected for priority action. The reduction and/or elimination of use, emissions and discharges of POPs should, if necessary, be taken on a step-by-step basis;

(c) The range of substances identified in UNEP Governing Council decision 18/32 require differentiated actions depending on their source, nature and use. For example, polychlorinated biphenyls (PCBs) require international cooperation for their proper management and disposal; unintended by-products, such as dioxins and furans, warrant investigation of best available technologies and alternative technologies; while pesticides require approaches addressing use and production;

(d) Furthermore, States should commit themselves to an open and transparent process to facilitate the work of the International Programme on Chemical Safety (IPCS), the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and the Intergovernmental Forum on Chemical Safety (IFCS), to assess and evaluate the environmental and socio-economic impact of other persistent organic pollutants consistent with the purpose, functions and priorities for action identified by IFCS with a view to their inclusion as appropriate in the global, legally binding instrument mentioned above.

89. To implement Governing Council decision 18/32, UNEP is undertaking a transparent process under the auspices of IOMC, involving Governments, industry, public-interest groups and relevant international organizations. This process is critical to ensuring a balanced consideration of the principal technical matters and central policy issues relevant to global action in this area.

90. States are encouraged to participate actively in the development of a legal instrument for the application of the prior informed consent (PIC) procedure for certain hazardous chemicals in international trade, consistent with UNEP Governing Council decision 18/12, adopted in May 1995.

V. RECOMMENDED APPROACHES BY SOURCE CATEGORY

91. This chapter provides guidance as to the actions that States should consider at national, regional and global levels, in accordance with their national capacities, priorities and available resources, and with the cooperation of the United Nations and other relevant organizations, as appropriate, and with the international cooperation for building capacities and mobilizing resources identified in chapter IV.

92. In the light of the differences between regions and States and the national priorities referred to in paragraphs 53 and 54 above, each State and each regional grouping should develop its own programme of action. This may or may not be a separate document but it should include specific targets and a clear timetable showing the dates by which the State or States involved commit themselves at a political level to achieve these targets.

93. In addition, action will be needed on certain matters at the global level, either to address global effects or to facilitate action at the national or regional levels. Specific targets for these matters are set out in this chapter.

A. Sewage

1. Basis for action

94. Recognizing variation in local conditions, domestic waste water improperly discharged to freshwater and coastal environments may present a variety of concerns. These are associated with: (a) pathogens that may result in human health problems through exposure via bathing waters or through contaminated shellfish, (b) suspended solids, (c) significant nutrient inputs, (d) biochemical oxygen demand (BOD), (e) cultural issues such as taboos in some areas, (f) plastics and other marine debris, (g) ecosystem population effects, and (h) heavy metals and other toxic substances, e.g. hydrocarbons, in those cases where industrial sources may have discharged effluent to municipal collection systems.

95. Environmental effects associated with domestic waste-water discharges are generally local with transboundary implications in certain geographic areas. The commonality of sewage-related problems throughout coastal areas of the world is significant. Consequently, domestic waste-water discharges are considered one of the most significant threats to coastal environments worldwide.

2. Objective/proposed target

96. With regard to objectives and targets, paragraph 21.29 of Agenda 21 states:

> "Governments, according to their capacities and available resources and with the cooperation of the United Nations and other relevant organizations, as appropriate, should:
>
> "(a) By the year 2000, establish waste treatment and disposal quality criteria, objectives and standards based on the nature and assimilative capacity of the receiving environment;
>
> "(b) By the year 2000, establish sufficient capacity to undertake waste-related pollution impact monitoring and conduct regular surveillance, including epidemiological surveillance, where appropriate;
>
> "(c) By the year 1995, in industrialized countries, and by the year 2005, in developing countries, ensure that at least 50 per cent of all sewage, waste waters and solid wastes are treated or disposed of in conformity with national or international environmental and health quality guidelines;
>
> "(d) By the year 2025, dispose of all sewage, waste waters and solid wastes in conformity with national or international environmental quality guidelines."

3. Activities

(a) National actions, policies and measures

97. Actions, policies and measures of States within their national capacities should include:

(a) Identification of major sewage sources and areas where sewage poses major environmental and health-related hazards;

(b) Development of national programmes of action for the installation of appropriate and environmentally sound sewage facilities, and to this end ensure:

(i) Incorporation of sewage concerns when formulating or reviewing coastal-development and land-use plans, including human-settlements plans;

(ii) Building and maintenance of sewer systems and sewage-treatment facilities or other appropriate systems, in accordance with national policies and capacities and international cooperation available;

(iii) Location of coastal outfalls so as to obtain or maintain agreed environmental quality criteria and to avoid exposing shell fisheries, water intakes, and bathing areas to pathogens and to avoid the exposure of sensitive environments (such as lagoons, coral reefs, seagrass beds, mangroves, etc.) to excess nutrient loads;

(iv) Promotion of the reuse of treated effluents for the conservation of water resources. To this end, infrastructural measures, treatment at source and segregation of industrial effluents, shall be encouraged, as well as:

a. Encouragement of the beneficial reuses of sewage effluents and sludges by the appropriate design of treatment plants and processes and controls of the quality of influent waste waters;

b. Ensuring the environmentally sound treatment when domestic and compatible industrial effluents are treated together;

(v) Promotion of primary, secondary and, where appropriate and feasible, tertiary treatment of municipal sewage discharged to rivers, estuaries and the sea;

(vi) Reduction and beneficial use of sewage or other solutions appropriate to specific sites such as no-water and low-water solutions;

(vii) Establishment and improvement of local and national regulatory and monitoring programmes to control and assess effluent discharge, using minimum sewage effluent guidelines and water quality criteria and giving due consideration to the characteristics of receiving bodies and the volume and type of pollutants;

(viii) Identification of the availability and sustainability of productive uses of sewage sludge, such as land-spreading, composting, etc.;

(ix) Establishment of research programmes to identify, validate and develop waste-water treatment technologies;

(c) Provision of sufficient training and education for local administrations to plan, build and run adequate sewage treatment facilities;

(d) Formulation and implementation of awareness campaigns for the general public to gain general recognition for the need for the installation of appropriate and environmentally sound sewage facilities.

(b) Regional actions

98. Regional actions should include:

(a) Promotion and implementation of regional cooperation for the establishment and implementation of programmes and priority measures for sewage, particularly in case of transboundary effects;

(b) Development of regional programmes for sharing and exchanging technical information and advice regarding environmentally sound sewage treatment and facilities.

(c) International actions

99. International actions should include:

(a) Participation in a clearing-house on environmentally sound sewage technology and practices;

(b) Facilitation of transfer of environmentally sound sewage technology;

(c) Scientific, technical and financial cooperation with countries in need of assistance, in developing, installing, operating and monitoring appropriate and environmentally sound sewage facilities.

B. Persistent organic pollutants (POPs)

1. Basis for action

100. Persistent organic pollutants (POPs) are a set of organic compounds that: (i) possess toxic characteristics; (ii) are persistent; (iii) are liable to bioaccumulate; (iv) are prone to long-range transport and deposition; and (v) can result in adverse environmental and human health effects at locations near and far from their source. POPs are typically characterized as having low water solubility and high fat solubility. Most POPs are anthropogenic in origin. Anthropogenic emissions, both point and diffuse, are associated with industrial processes, product use and applications, waste disposal, leaks and spills, and combustion of fuels and waste materials. Once dispersed, clean-up is rarely possible. Because many POPs are relatively volatile, their remobilization and long-distance redistribution through atmospheric pathways often complicates the identification of specific sources.

101. POPs have long environmental half-lives. Accordingly, successive releases over time result in continued accumulation and the ubiquitous presence of POPs in the global environment.

102. The primary transport routes into the marine and coastal environment include atmospheric deposition and surface run-off. Regional and global transport is predominately mediated by atmospheric circulation, but also occurs through sediment transport and oceanic circulation. Movement may also occur through a successive migration of short-range movements that result from a sequence of volatilization, deposition, and revolatilization. Due to these transport patterns and chemical characteristics, there is a growing body of evidence demonstrating the systematic migration of these substances to cooler latitudes.

2. Objective/proposed target

103. The objective/proposed target is:

(a) To reduce and/or eliminate emissions and discharges of POPs that threaten to accumulate to dangerous levels in the marine and coastal environment;

(b) To give immediate attention to finding and introducing preferable substitutes for chemicals that pose unreasonable and otherwise unmanageable risks to human health and the environment;

(c) To use cleaner production processes, including best available techniques, to reduce and/or eliminate hazardous by-products associated with production, incineration and combustion (e.g. dioxins, furans, hexaclorobenzene, poycyclic aromatic hydrocarbons (PAHs));

(d) To promote best environmental practice for pest control in agriculture and aquaculture.

3. Activities

(a) National actions, policies and measures

104. Actions, policies and measures of States within their national capacities should include:

(a) Development, compilation and maintenance of inventories of point-source releases of POPs, identification and assessment of diffuse sources and sinks from which POPs may remobilize, and assessment of releases from these sources as a basis for pollution control and prevention measures;

(b) Development of comprehensive national programmes of action for the reduction and/or elimination of emissions and discharges, and where applicable, remobilization from all significant sources of POPs, including targets and timetables and sector-specific measures for industry and agriculture:

(i) Adoption of appropriate policy instruments - which could include regulation, economic instruments and voluntary agreements - on POPs applying the precautionary principle and the "polluter pays" principle. Priority should be given to phasing out or banning of chemicals that pose unreasonable and otherwise unmanageable risks to human health and the environment and whose use can not be adequately controlled. This can be achieved through substitution by environmentally sound substances, use of best available techniques (BAT), application of best environmental practice (BEP) and implementation of integrated pollution prevention and control (IPPC);

(ii) Development of appropriate regulatory measures and establishment of facilities for environmentally sound collection and disposal of wastes containing POPs;

(iii) Establishment of an environmental monitoring programme for POPs including the development of assessment criteria and the adoption of internationally accepted quality control and quality assurance procedures;

(iv) Development of programmes to promote the informed use of substances which can result in discharges and emissions of POPs from diffuse sources, including the promotion of good agricultural practice to limit the use of pesticides to the application rates essential for crop protection, and restraint in the non-agricultural use of pesticides, especially on roads and railways;

(v) Establishment of information services for industry and agriculture on least environmentally hazardous handling and use of POPs, and on substitutes, technology and ways and means to

prevent, reduce and eliminate pollution by POPs, including best environmental practice (BEP), best available techniques (BAT) and integrated pollution prevention and control (IPPC);

(vi) Ratification and implementation of relevant international and regional conventions and agreements;

(vii) Ensuring the effective implementation of relevant bilateral, regional and international decisions and recommendations, inter alia, by:

a. Assessing regularly whether the national goals and measures to reduce and eliminate pollution by POPs are being accomplished;

b. Compliance monitoring, assessing and reporting the effects of these measures; and

c. Establishing or strengthening, as appropriate, institutions to deal effectively with the problems of POPs.

(b) Regional actions

105. Regional actions should include:

(a) Encouraging existing regional agreements and programmes of action on the prevention and elimination of pollution of the marine and coastal environment from land-based activities, to set up and implement programmes and priority measures to prevent, reduce and/or eliminate emissions and discharges of POPs and materials containing POPs from all sources. To this end, they should, inter alia:

(i) Adopt targets and timetables for reduction and/or elimination of POPs releases through their substitution, and on best available techniques (BAT), best environmental practice (BEP), and integrated pollution prevention and control (IPPC);

(ii) Adopt decisions and recommendations on the development of harmonized assessment criteria and monitoring programmes based on regionally or internationally agreed quality control and quality assurance procedures;

(iii) Provide member States with technical information and advice regarding handling, use and disposal of POPs and their substitutes and ways and means to minimize and eliminate their release to the environment;

(iv) Ensure transparency of the implementation of decisions and recommendations by adopting regular reporting on implementation and monitoring of measures regarding POPs; and

(v) Assess compliance with, and the effects of, the agreed measures;

(b) Encouraging States that are not already parties to regional agreements and action plans on the prevention and elimination of pollution of the marine and coastal environment from land-based activities to join such cooperation and to cooperate on a bilateral and/or a multilateral basis in the regulation of POPs;

(c) Encouraging the strengthening of or, as appropriate, establishing regional institutions to deal effectively with the problems of POPs.

(c) International actions

106. International actions should include:

(a) Urging international, regional and subregional funding sources and mechanisms and donor countries, to ensure that the objectives, principles and measures laid down in this chapter be taken into account when supporting projects that directly or indirectly relate to emissions, discharges and, where appropriate, the manufacture and use of POPs, as well as the clean-up and restoration of areas polluted with POPs;

(b) Encouraging international, regional and subregional funding sources and mechanisms to ensure that available financial resources are made available for supporting measures to reduce or eliminate releases of POPs to the environment;

(c) Inviting appropriate international agencies and bodies to strengthen necessary information exchange, transfer of environmentally sound technology and capacity-building for the implementation of the objectives, principles and measures laid down in this chapter for the reduction and/or elimination of POPs releases to the environment;

(d) Strengthening and extending existing international quality assurance, standardization and classification mechanisms for POPs to ensure that inventories and assessments are both reliable and intercomparable. Such existing mechanisms include those co-sponsored by IOC, UNEP and IAEA under the GIPME programme, and the associated activities of the Marine Environmental Studies Laboratory in Monaco;

(e) Cooperation with countries in need of assistance, through financial, technical and scientific support, in order to reduce and/or eliminate emissions and discharges of POPs that threaten to accumulate to dangerous levels in the marine and coastal environment;

(f) Priority attention should be given to finding and introducing preferable substitutes for POPs that pose unreasonable and otherwise unmanageable risks to human health and the environment.

C. Radioactive substances

1. Basis for action

107. Radioactive substances (i.e., materials containing radionuclides) have entered and/or are entering the marine and coastal environment, directly or indirectly, as a result of a variety of human activities and practices. These activities include production of energy, reprocessing of spent fuel, military operations, nuclear testing, medical applications and other operations associated with the management and disposal of radioactive wastes and the processing of natural materials by industrial processes. Other activities, such as the transport of radioactive material, pose risks of such releases.

108. Radioactive materials can present hazards to human health and to the environment. Suspected radioactive contamination of foodstuffs can also have negative effects on marketing of such foodstuffs.

2. Objective/proposed target

109. The objective/proposed target is to reduce and/or eliminate emissions and discharges of radioactive substances in order to prevent, reduce and eliminate pollution of the marine and coastal environment by human-enhanced levels of radioactive substances.

3. Activities

(a) National actions, policies and measures

110. Actions, policies and measures of States within their national capacities should include:

(a) Promotion of policies and practical measures including setting targets and timetables to minimize and limit the generation of radioactive wastes and provide for their safe processing, storage, conditioning, transportation and disposal;

(b) Ensuring the safe storage, transportation and disposal of radioactive wastes, as well as spent radiation sources and spent fuel from nuclear reactors destined for final disposal, in accordance with international regulations or guidelines;

(c) Ensuring proper planning, including environmental impact assessment, of safe and environmentally sound management of radioactive waste, including emergency procedures, storage, transportation and disposal, prior to and after activities that generate such waste;

(d) Adoption of measures, including best available techniques and best environmental practice, for the reduction and/or elimination of inputs of radioactive substances to the marine and coastal environment for the

purpose of preventing and eliminating pollution of the marine and coastal environment;

(e) Ratification and/or implementation of relevant international and regional conventions, decisions and resolutions.

111. States should:

(a) Not promote or allow the storage or disposal of high-level, intermediate-level and low-level radioactive wastes near the marine and coastal environment unless they determine that scientific evidence, consistent with the applicable internationally agreed principles and guidelines, shows that such storage or disposal poses no unacceptable risk to people and the marine and coastal environment or does not interfere with other legitimate uses of the sea, making, in the process of consideration, appropriate use of the concept of the precautionary approach;

(b) Respect, in accordance with international law, the decisions, as far as applicable to them, under other relevant regional and other international environmental conventions dealing with other aspects of safe and environmentally sound management of radioactive wastes;

(c) Conclude and sign the Comprehensive Test Ban Treaty by no later than 1996;*

(d) Make available information on the characteristics of terrestrial dump sites in coastal areas through, and consistent with, agreed regional and international reporting procedures. The information should include the magnitude, types of materials, characteristics of storage and status of the dump sites.

(b) Regional actions

112. Relevant regional organizations, in accordance with regional needs and capacities, should ensure:

(a) Monitoring of radioactivity in their regions and identification of any problem areas;

(b) The establishment of criteria for assessing and/or reporting on the use in their region of best available techniques to prevent and eliminate pollution by inputs of radioactive substances;

(c) The preparation of comprehensive environmental assessments of the effect on the marine and coastal environment of historical discharges and current discharges of radioactive substances.

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* Note. This subparagraph has to read in conjunction with the report of the Intergovernmental Conference (UNEP(OCA)/LBA/IG.2/6).

(c) International actions

113. International actions should include:

(a) Support for efforts under the auspices of IAEA to develop and promulgate radioactive waste management safety standards, guidelines or codes of practice, including work being undertaken towards an international convention on the safety of radioactive waste management, in order to provide an internationally accepted basis for the safe and environmentally sound management and disposal of radioactive wastes. This work should take account of the application of best available techniques and best environmental practice for all nuclear applications not currently covered by internationally binding agreements making such provisions;

(b) Cooperation with developing countries and economies in transition, through financial, technical and scientific support, in ensuring environmentally sound management and storage of radioactive materials as well as supporting environmental restoration efforts;

(c) Maintenance of existing international quality assurance and standardization mechanisms supporting the reliable measurement and assessment of radionuclides in the environment. Such existing mechanisms include the Analytical Quality Control Services provided by the Marine Environmental Studies Laboratory of IAEA;

(d) Consideration by all Governments and international organizations that have expertise in the field of clean-up and disposal of radioactive contaminants to give appropriate assistance as may be requested for remedial purposes in adversely affected areas.

D. Heavy metals

1. Basis for action

114. Heavy metals are natural constituents of the Earth's crust. Human activities have drastically altered the biochemical and geochemical cycles and balance of some heavy metals. Heavy metals are stable and persistent environmental contaminants since they cannot be degraded or destroyed. Therefore, they tend to accumulate in the soils and sediments. Excessive levels of metals in the marine environment can affect marine biota and pose risk to human consumers of seafood.

115. Metals and their compounds, both inorganic and organic, are released to the environment as a result of a variety of human activities. A wide range of metals and metallic compounds found in the marine environment pose risks to human health through the consumption of seafood where contaminant content and exposure are significant. Many metals are essential to life and only become toxic when exposures to biota become excessive (i.e., exceed some threshold for the introduction of adverse effects). While certain non-essential metals do not have explicit exposure thresholds for the introduction of effects, the nature of biological responses to metal

exposure are a direct consequence of exposure and are defined through dose-effect relationships. This differs from the dose-response relationship associated with many synthetic organic contaminants and radionuclides where risk of adverse effects is assumed to be proportional to exposure. Accordingly, it is desirable to minimize such exposures. In contrast, the predominant challenge in the case of heavy metals is one of limiting exposure to levels that do not cause adverse effects.

116. The main anthropogenic sources of heavy metals are various industrial point sources, including present and former mining activities, foundries and smelters, and diffuse sources such as piping, constituents of products, combustion by-products, traffic, etc. Relatively volatile heavy metals and those that become attached to air-borne particles can be widely dispersed on very large scales. Heavy metals conveyed in aqueous and sedimentary transport (e.g., river run-off) enter the normal coastal biogeochemical cycle and are largely retained within near-shore and shelf regions.

2. Objective/proposed target

117. The objective/proposed target is to reduce and/or eliminate anthropogenic emissions and discharges in order to prevent, reduce and eliminate pollution caused by heavy metals.

3. Activities

(a) National actions, policies and measures

118. Actions, policies and measures of States within their national capacities should include:

(a) Development, compilation and maintenance of inventories on significant sources, including natural sources, of priority heavy metals and their compounds and subsequent assessment of inputs and establishment of priority (geographic or subject) areas for action. They should also, where appropriate, take into account input from long-range transport of these pollutants;

(b) Development of comprehensive national programmes of action for reduction and/or elimination of emissions and discharges of heavy metals from anthropogenic sources could include:

(i) Targets, timetables and sector-specific measures, respecting the precautionary principle, best available techniques (BAT), best environmental practice (BEP) and integrated pollution prevention and control (IPPC);

(ii) Fiscal and economic incentives and measures, including voluntary agreements to encourage reduction and/or elimination of emissions and discharges of heavy metals;

(iii) Appropriate regulatory measures and establishment of facilities for environmentally sound collection and disposal of hazardous wastes containing heavy metals taking into account the technical document on landfill agreed upon within the framework of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;

(iv) Promotion of technical solutions, such as the use of unleaded petrol and filter systems for smelters;

(v) Means to ensure effective implementation of the programme of action;

(vi) The establishment of cleaner production programmes in cooperation with industry;

(c) Establishment of an environmental monitoring programme for heavy metals including the development of assessment criteria and the adoption of internationally accepted quality control and quality assurance procedures;

(d) Formulation and implementation of awareness and education campaigns for the public and industry, to gain general recognition of the need to reduce and eliminate pollution by heavy metals and in particular to further reduce diffuse inputs through waste systems, including sewerage systems;

(e) Establishment of information services for industry on technology and ways and means to prevent, reduce and eliminate pollution by heavy metals, including best environmental practice (BEP), best available techniques (BAT) and integrated pollution prevention and control (IPPC);

(f) Promotion of private initiatives for the establishment and implementation of systems of internal environmental management within industry.

(b) Regional actions

119. Regional actions should include:

(a) Encouraging existing regional agreements and programmes of action dealing with the prevention and elimination of pollution of the marine and coastal environment from land-based activities, to develop or continue to develop and implement programmes and measures to reduce and/or eliminate emissions and discharges of heavy metals and material containing these substances from the appropriate industrial sectors, products and groups of products;

(b) Development and implementation of monitoring programmes and regular assessments of levels, inputs and effects based on regionally agreed quality control and quality assurance procedures and harmonized assessment criteria;

(c) Encouraging States, including land-locked States, that are not already parties to regional seas arrangements regarding the protection of the marine and coastal environment from land-based activities to join such cooperation and to cooperate on bilateral and multilateral basis in the control of pollution from heavy metals;

(d) Promotion of cooperation in the development of cleaner production programmes.

(c) International actions

120. International actions should include:

(a) Strengthening and extending existing international quality assurance, standardization and classification mechanisms for heavy metals and their compounds to ensure that inventories and assessments are both reliable and intercomparable. Such existing mechanisms include those co-sponsored by IOC, UNEP and IAEA under the GIPME programme and the associated activities of the Marine Environmental Studies Laboratory in Monaco;

(b) Participation in a clearing-house for information on best available techniques (BAT), best environmental practice (BEP) and integrated pollution prevention and control (IPPC) to reduce and/or eliminate emissions and discharges of heavy metals;

(c) Cooperation with countries in need of assistance, through financial, scientific and technical support to maximize the best practicable control and reduction of anthropogenic emissions and discharges of heavy metals.

E. Oils (Hydrocarbons)

1. Basis for action

121. Many oils are liquid and gaseous hydrocarbons of geological origin. While some oils are naturally occurring, a significant proportion of those in the marine and coastal environment have been derived from anthropogenic sources. Most oils from land-based sources are refined petroleum products or their derivatives. Some oils are volatile or easily degraded and disappear rapidly from aquatic systems, but some may persist in the water column or in sediments. Oils may be toxic to aquatic life when ingested or absorbed through skin or gills, interfere with respiratory, can foul fur and feathers, smother aquatic communities, habitats, and bathing beaches, taint seafood and contaminate water supplies.

122. Land-based sources of oils include operational and accidental discharges and emissions from oil exploration, exploitation, refining and storage facilities; urban, industrial and agricultural run-off; transport; and the inappropriate disposal of used lubricating oils. The main pathways to the marine environment include atmospheric dispersion of volatile

fractions; storm sewers and sewage treatment works; and rivers. Impacts from land-derived oils will be regional for the more volatile fractions, and local (occasionally regional) for more refractory components.

2. Objective/proposed target

123. The objective is to prevent, reduce and/or eliminate anthropogenic emissions and discharges in order to prevent, reduce and eliminate pollution caused by oil.

3. Activities

(a) National actions, policies and measures

124. Actions, policies and measures of States within their national capacities should include:

(a) Development, compilation and maintenance of inventories of significant sources of oils, and subsequent assessment and establishment of areas (geographic or substance) for action. They should also, where appropriate, take into account inputs from long-range transport of these pollutants;

(b) Development of comprehensive national programmes of action for the reduction and/or elimination of priority emissions and discharges from anthropogenic sources could include:

(i) Targets, timetables, and sector-specific measures respecting the precautionary principle and applying best available techniques (BAT), best environmental practice (BEP), and integrated pollution prevention and control (IPPC);

(ii) Fiscal and economic incentives and measures, including voluntary agreements, to encourage reductions in emissions and discharges of oils, to encourage the recycling of used lubricating oils, and to encourage fuel-use efficiencies;

(iii) The provision of reception and recycling facilities for oily wastes;

(iv) Development of plans and measures to prevent accidental releases of oils, particularly from coastal refineries, storage facilities and waste reception facilities and of capacities to respond to such accidents;

(v) Establishment of cleaner production programmes in cooperation with industry;

(vi) Means to ensure the effective implementation of the programme of action;

(c) Establishment of environmental monitoring programmes for oil, including the development of assessment criteria and the adoption of internationally accepted quality control and quality assurance procedures;

(d) Formulation and implementation of awareness and education campaigns for the public and industry to gain general recognition of the need and ways to reduce emissions and discharges of oil, and, in particular, to further reduce diffuse inputs through waste systems, including sewerage systems;

(e) Establishment of information services for industry on technology and ways and means to prevent, reduce and eliminate pollution by oil, including best environmental practice (BEP), best available techniques (BAT), and integrated pollution prevention and control (IPPC);

(f) Promotion of private initiatives for the establishment and implementation of systems of internal environmental management within industry.

(b) Regional actions

125. Regional actions should include:

(a) Encouraging existing regional agreements and programmes of action on the prevention and elimination of pollution of the marine and coastal environment from land-based activities, to develop or continue to develop and implement programmes and measures to reduce and/or eliminate emissions and discharges of oils from the appropriate industrial sectors, products and groups of products;

(b) Adoption of programmes and measures on the development of harmonized assessment criteria and monitoring programmes based on regionally or internationally agreed quality control and quality assurance procedures;

(c) Encouraging States, including land-locked States, that are not already parties to regional seas arrangements regarding the protection of the marine and coastal environment from land-based activities, to join such cooperation and to cooperate on bilateral and multilateral basis in the control of pollution from oil;

(d) Promoting cooperation on the development of cleaner- production programmes, best available techniques, and best environmental practice;

(e) Development of regional plans and measures to prevent accidental releases of oils, and development of regional capacities to respond to such accidents;

(f) Where appropriate, the provision of regional reception and recycling facilities for oily wastes.

(c) International actions

126. International actions should include:

(a) Strengthening and extending existing international quality assurance, standardization and classification mechanisms for oil, oil products and their constituents to ensure that inventories and assessments are both reliable and intercomparable. Such existing mechanisms include those co-sponsored by IOC, UNEP, and IAEA under the GIPME programme, and the associated activities of the Marine Environmental Studies Laboratory in Monaco;

(b) Participation in a clearing-house for information on best available techniques (BAT), best environmental practice (BEP), and integrated pollution prevention and control (IPPC) to reduce and/or eliminate emissions and discharges of oil;

(c) Cooperation with countries in need of assistance through financial, technical, and scientific support, to maximize the best practicable control and reduction in emissions and discharges of oil.

F. Nutrients

1. Basis for action

127. Eutrophication can result from augmentation of nutrient inputs to coastal and marine areas as a consequence of human activities. In general, such eutrophication is usually confined to the vicinity of coastal discharges but, because of both the multiplicity of such discharges and regional atmospheric transport of nutrients, such affected coastal areas can be extensive.

128. The effects of the enhanced mobilization of nutrients are enhanced productivity but these can also result in changes in species diversity, excessive algal growth, dissolved oxygen reductions and associated fish kills and, it is suspected, the increased prevalence or frequency of toxic algal blooms.

2. Objective/proposed target

129. The objective/proposed target is:

(a) To identify, in broad terms, marine areas where nutrient inputs are causing or are likely to cause pollution, directly or indirectly;

(b) To reduce nutrient inputs into the areas identified;

(c) To reduce the number of marine areas where eutrophication is evident;

(d) To protect and, where appropriate, to restore areas of natural denitrification.

3. Activities

(a) National actions, policies and measures

130. Actions, policies and measures of States within their capacities should include:

(a) Identification of areas where nutrient inputs are likely to cause pollution, directly or indirectly;

(b) Identification of point sources and diffuse sources of nutrient inputs into these areas;

(c) Identification of areas where changes in anthropogenic nutrient inputs are causing or are likely to cause pollution, either directly or indirectly, and prioritization of these areas for action;

(d) Adoption of appropriate cost-effective policy instruments, including regulatory measures, economic instruments and voluntary agreements, to control anthropogenic sources of nutrients affecting these areas, including:

(i) Activities related to sewage treatment and management mentioned in paragraph 97 (b) above;

(ii) Minimization of the release of nutrients by the use of best environmental practice (BEP) in agriculture and aquaculture operations;

(iii) Minimization of the release of nutrients by the use of best environmental practice (BEP), best available techniques (BAT) and integrated pollution prevention and control (IPPC) in industrial operations;

(iv) Formulation and implementation of awareness and information campaigns for the adoption of appropriate agricultural techniques, including balanced fertilization and ecological agriculture, to minimize nutrient losses from agricultural activities;

(v) Introduction of measures to reduce inputs of nutrients via atmospheric deposition from transportation, industrial plants and agriculture;

(e) Strengthening the capacities of local authorities to take account of likely impacts of inputs of nutrients from agriculture and urban development in carrying out their functions of planning and controlling land-use and development;

(f) Establishment or improvement, as appropriate, of monitoring of all aspects of eutrophication;

(g) Promotion of scientific research on the suspected linkages between eutrophication and toxic algal blooms;

(h) Development and adoption of programmes to protect and, where appropriate, restore habitats acting as natural sinks for nutrients such as wetlands.

(b) Regional actions

131. Regional actions should include:

(a) Establishment of common criteria for the identification of existing and potential problem areas including possible solutions with regard to eutrophication;

(b) Identification of marine areas in the region where nutrient inputs are causing or are likely to cause pollution, directly or indirectly;

(c) Identification of areas for priority actions;

(d) Establishment of uniform approaches to the calculation of anthropogenic nutrient inputs to the aquatic environment from agriculture and other sources, as appropriate, with the aim of improving the estimation of these inputs;

(e) Development and implementation of programmes and measures for reducing nutrient inputs from anthropogenic activities to areas where these inputs are causing or are likely to cause pollution directly or indirectly and, where the agricultural sector is a predominant source, to pay particular attention to that sector and the implementation of measures identified for it;

(f) Establishment of mechanisms for assessing the effectiveness of the measures taken to reduce nutrient inputs to the aquatic environment from both point and diffuse sources;

(g) Development of strategies for reducing eutrophication in areas already affected and those susceptible to being affected.

(c) International actions

132. International actions should include:

(a) Participation in a clearing-house for providing information about best environmental practice and access to best available techniques to reduce and/or eliminate causes of anthropogenic eutrophication;

(b) Strengthening of international programmes for enhancing capacity for:

(i) Identification of areas where inputs of nutrients are causing or are likely to cause pollution, directly or indirectly;

(ii) Nutrient control and removal techniques;

(iii) Application of best environmental practice in aquaculture and agriculture;

(c) Cooperation with countries in need of assistance, through financial, technological and scientific support, in developing and implementing practices which minimize releases of nutrients to the environment, including environmentally sound land-use techniques, planning and practices;

(d) Provision of forums for establishing criteria for determining the circumstances in which nutrients are likely to cause pollution, directly or indirectly;

(e) Maintaining existing international quality assurance and quality control procedures relevant to eutrophication.

G. Sediment mobilization

1. Basis for action

133. Natural sedimentation and siltation are important in the development and maintenance of numerous coastal habitats. Habitats requiring sediment input include coastal wetlands, lagoons, estuaries and mangroves. Reduction in natural rates of sedimentation can compromise the integrity of these habitats, as can excessive sediment loads, which may bury benthic communities and threaten sensitive habitats such as coral reefs, mangroves, seagrass beds, and rocky substrates.

134. Contaminated sediments, whether they are fresh inputs or dredged, may also lead to pollution, the latter through resuspension or improper disposal.

135. Anthropogenic modifications to sediment mobilization and sedimentation are made by, inter alia, construction activities, forestry operations, agricultural practices, mining practices, hydrological modifications, dredging activities, and coastal erosion. Effects are generally local in nature, but transboundary implications may occur in some areas where major river systems form a common border and where littoral currents carry inputs across international boundaries.

2. Objective/proposed target

136. The objective/proposed target is to reduce, control and prevent the degradation of the marine environment due to changes in coastal erosion and siltation caused by human activities.

3. Activities

(a) National actions, policies and measures

137. Actions, policies and measures of States within their capacities should include:

(a) Development and implementation of environmentally sound land-use practices to control sediment discharges to watercourses and estuaries which cause degradation of the marine environment;

(b) Establishment of measures to control, reduce and prevent coastal erosion and siltation due to anthropogenic factors such as land-use, including coastal mining and construction practices, while ensuring that natural erosion supplying sedimentary habitats is not impeded;

(c) Introduction of watershed management and land-use practices to prevent, control and reduce degradation of the marine environment due to anthropogenic changes in sediment loads and contamination of sediments;

(d) Application of practices developed under existing international regulations to prevent marine pollution/degradation from dumping of dredged material and associated dredging operations;

(e) Establishment or improvement of monitoring of sediment transport to the marine environment and associated sedimentation patterns and rates;

(f) Application of environmentally sound management and storage practices for polluted dredged material;

(g) Adoption of measures to minimize changes to natural erosion, sediment transport and sedimentation resulting from the construction of barriers and barrages.

(b) Regional actions

138. Regional actions should include:

(a) Promotion of regional cooperation, where appropriate, for the establishment of programmes and priority measures to control anthropogenic modifications to sedimentation/siltation;

(b) Development or enhancement, as appropriate, of regional programmes for the exchange of information on technology and techniques and experience regarding sedimentation/siltation.

(c) International actions

139. International actions should include:

(a) Development of methodologies to reduce, control and prevent adverse effects of sedimentation/siltation, including the formulation of mechanisms for determining changes in sediment mobilization and transport, incorporating relevant quality assurance and standardization procedures;

(b) Participation in a clearing-house for providing information on technologies, measures and experiences regarding sedimentation/siltation;

(c) Cooperation with countries in need of assistance, through financial, scientific and technical support, in the development and implementation of environmentally sound land-use techniques, planning and practices to reduce, control and prevent the negative effects of changes in erosion and siltation rates.

H. Litter

1. Basis for action

140. Litter threatens marine life through entanglement, suffocation and ingestion and is widely recognized to degrade the visual amenities of marine and coastal areas with negative effects on tourism and general aesthetics. Litter is any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment, sometimes called marine debris. Litter in the marine environment can also destroy coastal habitats and in some situations interfere with biological production in coastal areas.

141. Litter entering the marine and coastal environment has multiple sources. Sources include poorly managed or illegal waste dumps adjacent to rivers and coastal areas, windblown litter from coastal communities, resin pellets used as industrial feedstocks, and litter that is channelled to the marine and coastal environment through municipal stormwater systems and rivers. Marine litter is also caused by dumping of garbage into the marine and coastal environment by municipal authorities as well as recreational and commercial vessels.

142. While international action has been taken to prevent the discharge of plastics and other persistent wastes from vessels, it has been estimated that approximately 80 per cent of persistent wastes originate from land. Floatable litter is known to travel considerable distances with regional and sometimes broader implications. Resin pellets used as industrial feedstock circulate and deposit on oceanic scales.

143. Uncontrolled burning of litter containing plastics may generate significant quantities of POPs, metals and hydrocarbons which can reach the marine and coastal environment.

2. Objective/proposed target

144. The objective/proposed target is:

(a) To establish controlled and environmentally sound facilities for receiving, collecting, handling and disposing of litter from coastal area communities;

(b) To reduce significantly the amount of litter reaching the marine and coastal environment by the prevention or reduction of the generation of solid waste and improvements in its management, including collection and recycling of litter.

145. In this context, paragraph 21.39 of Agenda 21 states:

"The overall objective of this programme is to provide health-protecting environmentally safe waste collection and disposal services to all people. Governments, according to their capacities and available resources and with the cooperation of the United Nations and other relevant organizations, as appropriate, should:

"(a) By the year 2000, have the necessary technical, financial and human resource capacity to provide waste collection services commensurate with needs;

"(b) By the year 2025, provide all urban populations with adequate waste services;

"(c) By the year 2025, ensure that full urban waste service coverage is maintained and sanitation coverage achieved in all rural areas."

3. Activities

(a) National actions, policies and measures

146. Actions, policies and measures of States within their capacities should include:

(a) Introduction of appropriate measures - which could include regulatory measures and/or economic instruments and voluntary agreements - to encourage reduction in the generation of solid wastes;

(b) Installation of garbage containers for citizens in public areas for the purposes of appropriate collection and/or recycling;

(c) Establishment and ensuring the proper operation of solid-waste-management facilities on shore for wastes from all sources, including shipping and harbour wastes;

(d) Formulation and implementation of awareness and education campaigns for the general public, industry, and municipal authorities, as well as recreational and commercial vessels, on the need to reduce waste generation and the need for environmentally sound disposal and reuse;

(e) Increasing local planning and management capacity to avoid location of waste-dump sites near coastlines or waterways or to avoid litter escape to the marine and coastal environment;

(f) Formulation and implementation of improved management programmes in small rural communities to prevent litter escape into rivers and the marine and coastal environment;

(g) Establishment of campaigns and/or permanent services for collecting solid wastes that pollute coastal and marine areas.

(b) Regional actions

147. Regional actions should include the promotion of regional cooperation for the exchange of information on practices and experiences regarding waste management, recycling and reuse, and cleaner production, as well as regional arrangements for solid waste management.

(c) International actions

148. International actions should include:

(a) Participation in a clearing-house on waste management, recycling and reuse, and waste-minimization technologies;

(b) Cooperation with countries in need of assistance, through financial, scientific and technological support, in developing and establishing environmentally sound waste-disposal methods and alternatives to disposal.

I. Physical alterations and destruction of habitats

1. Basis for action

149. The increase of populations and economic activities in coastal areas is leading to an expansion of construction and alterations to coastal areas and waters. Excavation, oil and gas exploration and exploitation, mining, such as sand and aggregate extraction, the building of ports and marinas and building of coastal defences and other activities linked to urban expansion are giving rise to alterations of coral reefs, shorelands, beachfronts and the seafloor. Important habitats are being destroyed. Wetlands are being transformed into agricultural lands and through coastal development Tourism, unrestricted and uncontrolled aquacu ure, clearance of mangroves and destructive fishing practices, such as the use of dynamite and chemicals, are also causing the physical destruction of important habitats The introduction of alien species can also have serious effects

upon marine ecosystem integrity. Spawning grounds, nurseries and feeding grounds of major living marine resources of crucial importance to world food security are being destroyed. This destruction of habitat exacerbates overharvesting of these living marine resources leading to a growing risk that they are being depleted. This is an increasing threat to the food security of coastal populations, in particular in developing countries.

150. The damming of river systems can result in upstream sedimentation, possible changes in estuarine conditions and interference with fish migration. These adversely affect biological diversity and biological productivity. The practice of saltwinning from saltpan construction in coastal areas can also affect salt concentration levels and biological diversity.

2. Objective/proposed target

151. The objective/proposed target is to:

(a) Safeguard the ecosystem function, maintain the integrity and biological diversity of habitats which are of major socio-economic and ecological interest through integrated management of coastal areas;

(b) Where practicable, restore marine and coastal habitats that have been adversely affected by anthropogenic activities.

3. Activities

(a) National actions, policies and measures

152. Actions, policies and measures of States within their capacities should include the formulation, adoption and implementation of programmes for integrated coastal area management, in accordance with Agenda 21, chapter 17, programme area A. These programmes should include, where appropriate:

(a) The identification of habitats of major socio-economic and ecological significance such as spawning grounds, breeding grounds and nurseries of marine living resources which guarantee food security of large coastal populations;

(b) Conducting assessments that involve the use of community-based participatory approaches, to identify land-based activities that threaten physical degradation or destruction of key habitats;

(c) Encouraging economic and social sectors whose activities may lead to physical degradation or destruction of such habitats to adjust those activities so as to reduce or avoid such effects;

(d) The establishment of marine protected areas in coastal areas to maintain the integrity and biological diversity of their habitats;

(e) Restoration of coastal habitats that have suffered decline or loss as a result of human activities.

(b) Regional actions

153. Regional actions should include formulation and adoption of regional-scale approaches to safeguarding critical habitats such as:

(a) Regional systems of marine and coastal protected areas;

(b) Regional programmes of action and protocols on important species and habitats;

(c) Regional approaches to management of important living marine resources, in particular where the spatial scales of their life-stages transcend national boundaries;

(d) Cooperation between regional marine environment programmes and regional fisheries organizations.

(c) International actions

154. International actions include:

(a) The coordination and formulation of guidelines for the preservation of habitat and normal ecosystem functions in coastal areas, particularly in the context of integrated coastal area management. Such activities should take advantage of and be consistent with existing international mechanisms and agreements;

(b) Participation in a clearing-house for providing information on technologies and experiences regarding coastal-zone-management methodology;

(c) Cooperation with countries in need of assistance, through financial, scientific and technical support, in the development and implementation of environmentally sound land-use techniques, planning and practices to prevent and control the negative effects of physical alterations.

Appendix

ILLUSTRATIVE LIST OF FUNDING SOURCES AND MECHANISMS

The possible funding sources and mechanisms that may be appropriate and which will need to be considered include:

A. Financing sources internal to the State concerned

1. User charges: User charges ensure that those who benefit immediately and directly from the provision of a service contribute towards the costs of that service;

2. Charging the polluter: Those who impose burdens on the aquatic environment (for example, by discharging waste water) can be required to contribute to the external costs of their actions;

3. Local taxes: A municipality, or other organized community, that benefits from improvements in water management, can contribute to the costs of those improvements from local taxes, either by a specific tax for that purpose or by a contribution from general tax revenues;

4. National taxes: Where the costs of some local improvement in water management would bear unreasonably on the local community concerned, or where the improvement benefits the public at large, the national budget can contribute part or all of the cost;

5. Private-sector borrowing: Where a project requires substantial initial investments, the public authority responsible can borrow the capital cost from national private-sector financial institutions, with the resulting loan-charges being serviced from any of the foregoing sources;

6. National revolving funds: A fund can be set up, financed from either any of the foregoing sources, from external financing sources or mechanisms or from a mix of any of these, from which advances can be made to finance project costs. Subsequent repayments from the projects are then used to refill the fund to permit new advances;

7. Private-sector participation: Private-sector firms can take responsibility for all, or parts, of the operation of a project instead of simply providing funds. This may involve:

(a) Improving and/or operating the assets necessary for a service ("the service assets"), which remain in public ownership;

(b) Providing and operating the service assets on their own account for a specific period, after which the assets revert to public ownership;

(c) Taking over ownership of the service assets and then improving and operating them on their own account, either for a specific period or permanently;

B. External financing sources and mechanisms

8. International private-sector institutions: Loans may be taken out from international private-sector financial institutions in the same way as from equivalent national institutions; in the same way, private-sector participation can equally be organized through international companies;

9. Export credit agencies: These are a source of shorter-term project financing, especially for specialized equipment;

10. Grant and concessionary assistance: Part of the costs of creating service assets or the necessary management infrastructure may be met by grants or loans, including loans of concessionary terms, from donor States or multilateral aid agencies, associations and programmes. Separate arrangements often exist to finance the acquisition of the "know-how" needed to plan and organize projects. In particular, GEF supports, by means of limited grant assistance up to the amount of the agreed incremental cost of global environmental benefits, actions consistent with its operational strategy in four focal areas: climate change, biological diversity, international waters and ozone-layer depletion;

11. Multilateral loans: The World Bank and regional development banks can provide loan finance for larger projects and technical assistance directly, and for smaller projects through financial intermediaries in the borrowing country, normally at rates lower than those obtainable on the commercial market;

12. Multilateral equity funds: Certain projects are more appropriately supported by means of equity capital than by interest-bearing loans. Where equity participation from the private-sector market is not available or not appropriate, certain public-sector financing agencies can provide support of this kind;

13. Debt-for-equity swaps and eco-conversion programmes: Creditors agree to convert the debts owed to them into local funds to be applied for environmentally beneficial expenditure;

14. Foundation grants: Many privately or publicly endowed foundations may use their resources to support innovative

approaches to environmental management or the development of human resources;

15. Twinning arrangements: Arrangements between authorities, either central or local, in one country and their counterparts in another, or analogous arrangements between regional seas organizations, have proved to be an important mechanism for the effective and sustained transfer of experience between parties with similar interests and concerns.